UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
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CHICAGO, IL 60604-3590

APR 0 1 2015

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RETURN RECEIPT REQUESTED

REPLY TO THE ATTENTION OF:

Mr. Arie de Jong
Arizona Maricopa Associates, LLC
807 East Mission Road
San Marcos, California 92069

Mr. Ray Taylor
CBS Corporation
20 Stanwix Street
Pittsburgh, Pennsylvania 15222

RE: Approval of Risk-Based PCB Delineation Sampling, Analysis and Remediation, Sanitary Sewer Line and Asphalt Roadway
Arizona Maricopa/Progress Rail Manufacturing Facility, Muncie, Indiana

Dear Mr. de Jong and Mr. Taylor:

The United States Environmental Protection Agency has completed its review of the February 2015 Risk-Based Plan (RBP) for the delineation and remediation of polychlorinated biphenyl (PCB) contamination at the Progress Rail Manufacturing facility (Progress Rail) which is owned by Arizona Maricopa Associates (AMA) and is located at 3500 South Cowan Road, Muncie, Indiana. This RBP specifically addresses two locations at the facility: an area at which sanitary and storm sewer lines are to be remediated and re-routed (the Western Sewer Line Area) and an area at which degraded asphalt pavement is to be replaced (the Asphalt Roadway). Because PCB contamination is present in soil and as light non-aqueous phase layer (LNAPL) at Progress Rail, this RBP has been submitted to EPA under Title 40 Code of Federal Regulations (40 CFR) §761.61(c).

In order to accommodate the sewer line work that is required by the City of Muncie, EPA is approving the February 2015 RBP. However, EPA expects AMA to submit a proposal under 40 CFR §761 to address the improperly disposed of PCBs beneath the manufacturing building.

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The PCB cleanup standard for the Western Sewer Line Area and the Asphalt Roadway will be ≤25 Parts per million (ppm), which is a cleanup level available for low-occupancy reuse scenario under 40 CFR §761.61(a)(4)(i)(B).

The February 2015 RBP for delineation and remediation of PCB contamination at the Progress Rail facility is hereby approved under the following conditions:

1. This RBP approval applies only to remediation of the Western Sewer Line Area and the Asphalt Roadway. EPA expects AMA to submit a proposal under 40 CFR §761 to address the improperly disposed of PCBs beneath the manufacturing building.

2. Post-excavation confirmation sampling of PCB removal from soil will be performed in accordance with 40 CFR §761, Subpart O, in order to confirm that the entire area of excavation meets the cleanup objective of ≤25 ppm PCBs for a low-occupancy reuse scenario under 40 CFR §761.61(a)(4)(i)(B).

3. In accordance with 40 CFR §761.61(a)(8), within 60 days of completion of cleanup activities, AMA shall record a permanent notation on the property deed which states that the Western Sewer Line Area and the Asphalt Roadway have been the locations of PCB remediation waste disposal and are restricted to low-occupancy use as defined at 40 CFR §761.3 and submit a certification that the notice has been recorded as required by 40 CFR §761(a)(8)(i)(B). The Western Sewer Line Area and the Asphalt Roadway are to be identified on the Survey Plat as locations of PCB remediation waste disposal restricted to low-occupancy reuse.

4. Following remediation of PCB contamination from the subject sewer lines at the Western Sewer Line Area, AMA will install barriers to prevent the migration of PCB LNAPL from beneath the manufacturing building into the newly configured sewer lines.

This approval is granted in accordance with the Federal PCB regulations codified at 40 CFR §761(c), under which the Regional Administrator may approve a method to dispose of PCB remediation waste if it is found that the method will not pose an unreasonable risk of injury to human health or the environment. This approval is based on our finding that the use of institutional controls to limit human exposure to the remaining on-site PCB contaminated soil will not pose an unreasonable risk to human health or the environment. This approval is effective as of the date of this letter.

EPA shall not consider this project complete until it has received all submittals required under this Approval. Upon EPA receipt and review of the submittals, we may request any additional information necessary to establish that the work has been completed in accordance with 40 CFR §761, the RBP, and this Approval.

AMA is responsible for ensuring continued compliance with all applicable provisions of the Toxic Substances Control Act (TSCA), the Federal PCB regulations, and the conditions of this Approval. Any departure from the conditions of this Approval or the RBP must receive prior written authorization from this office. Further, this Approval does not relieve AMA from compliance with any other Federal, State, or local regulatory requirements. EPA reserves the right to require additional cleanup should AMA (or any other responsible party) fail to maintain control mechanisms, find additional contamination beyond that addressed under this Approval of if land use changes.

All conditions of this approval and other applicable requirements of TSCA and its implementing regulations will continue to apply to the Progress Rail facility after any transfer of ownership or operation.

If you have any questions regarding this approval, please contact Don Heller, of my staff, at (312) 353-1248 or heller.donald@epa.gov.

Sincerely,

Margaret M. Guerriero
Director
Land and Chemicals Division

PROGRESS RAIL MANUFACTURING CORP (TENANT)

ARIZONA MARICOPA ASSOCIATES SITE (PROPERTY OWNER)

DELINEATION SAMPLING AND ANALYSIS PLAN

AND

REMEDIATION WORK PLAN

FOR THE

SANITARY SEWER LINE
AND
ASPHALT ROADWAY

AT

3500 SOUTH COWAN ROAD
MUNCIE, INDIANA

Prepared by:

CBS Corporation
20 Stanwix Street
Pittsburgh, Pennsylvania 15222

February 2015

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1.0 Introduction

On October 31, 2014, CBS (fka Westinghouse Electric Corp) received an email (Reference 1) from Caterpillar addressing two PCB issues that Progress Rail Manufacturing Corporation (Progress Rail), A Caterpillar Company, has discovered at the former Westinghouse Electric plant at the 3500 South Cowan Road facility in Muncie, IN. The first issue involves recent sampling conducted by LP Environmental (LP) for Progress Rail which identified PCB impacts along existing sewer lines in the former old vapotherm tank farm area on the west side of the facility as shown in Figure 1. Figure 2 shows the contamination found along two existing sewer lines in this area, Line 1 and Line 2. The green lines shown on Figure 2 are the estimated locations for a new separate sanitary sewer line.

The second issue involves two locations in a degraded asphalt roadway in the rear southeast corner of the facility where PCB impacts above 50 ppm were identified during preparations for road repairs. These two areas are known as Area A/North and Area B/South, as shown on Figure 3.

This document summarizes previous investigation results and presents the plans CBS proposes to continue delineating these areas and to remove the contaminated soils and asphalt to allow plant upgrades to proceed. CBS plans to perform this cleanup under EPA 761.61(c) for a risk-based remediation. The reason for proposing a risk-based remediation is that the existing data and the proposed sampling are not as prescribed in 761.61(a) for a self-implementing cleanup.

1.1 Site Background

The plant was constructed by Westinghouse Electric Corporation in 1961 for the manufacture of large power transformers and the repair/rebuilding of shell-type transformers. New transformers were filled with non-PCB-containing dielectric fluid. The use of PCB fluids in transformer manufacturing operations was limited to heat transfer fluids.

Westinghouse operated the plant until February 1989, when joint operations began with Asea Brown Boveri (ABB). The joint operation only continued until December 1989, when ABB purchased the plant from CBS and became the sole owner / operator. Manufacturing operations ceased in the latter part of 1998. Most of the machinery and equipment was dismantled and removed during 1999. CBS and ABB jointly entered the Vapotherm tank farm and process areas (described below) into the IDEM Voluntary Remediation Program in 1999 under IDEM VRP #s 6000407 and 6000408, respectively.

In February 2003, the property and facilities were acquired from ABB by the Commercial Development Corporation, which leased space in the building primarily for warehousing. In 2007, the facility was acquired by Arizona Maricopa Associates, LLC, a real estate trust, who are the current owners. Currently the facility is leased to a tenant, Progress Rail. Progress Rail has modified the plant for the purpose of manufacturing locomotives at the facility.

1.2 History of Plant PCB Usage

During Westinghouse operations, from 1964 to 1982, PCB fluids were used in the transformer manufacturing operations as a heat transfer fluid in a closed loop drying process called the Vapotherm process system.

The former vapotherm process area was located inside the high bay area of the plant in the west-central section of the plant, as shown on Figure 4. The previously mentioned vapotherm tank farm which serviced the vapotherm process is also shown located immediately outside the building, next to the high bay area. The PCB fluids were transported from the tank farm area to the former vapotherm process area via above ground and subsurface piping.

The tank farm area contained three to five above ground storage tanks including a 4,500-gal waste solvent/oil tank that was known to have held PCB fluids. In the early 1980s, spills of PCB fluids were known to have occurred from storage tanks within this tank farm (Reference 2). On April 17, 1981, approximately 2,000 to 3,000 gallons of a mixture of heat transfer fluids containing PCBs (Monsanto-Therminol FR-1 and Monsanto-Therminol 55) were spilled within this tank farm (Reference 3). An additional spill of unknown volume, estimated to be between100 and 3,000 gallons of waste solvent, also occurred from a line valve failure.

1.3 Previous PCB Remedial Activities

In 1982, the Vapotherm process units, including all tanks and related equipment in the tank farm were removed from the plant. During removal of the tank farm in 1982, Westinghouse conducted an initial removal of PCB-contaminated soils. Beginning in November 1982, an environmental contractor hired by Westinghouse, CECOS Environmental, Inc., conducted remediation activities in the spill area (Reference 3). A subsequent soil removal was also performed in this area in 1984.

During removal of the vapotherm equipment inside the plant, fluid containing PCB was encountered beneath a sump in the vapotherm process area. Approximately 2,000 gallons of fluid, which apparently leaked during operation of the system, were pumped from beneath the sump. After removal of the fluids, the void beneath the sump was filled with gravel and topped with concrete (Reference 2).

1.3.1 Old Vapotherm Tank Farm

Additional site wide investigations in the 1990s showed that PCBs remained in the old vapotherm tank farm area soils above the low occupancy cleanup levels. Additional rounds of PCB delineation outside the plant resulted in CBS performing an interim remedial action in 2006 under the IDEM Voluntary Remediation Program, VRP #6000407. Figure 5 shows the delineation sampling that Westinghouse performed for the 2006 tank farm remediation. The subject sewer line where LP Environmental recently identified PCB LNAPL is shown exiting the building at MH-7 in grid A4. Figure 4 shows the excavation depths achieved in 2006 along the 10” sanitary sewer line and the invert pipe elevations of the sewer pipe itself. These grids were excavated to just above the existing 10” sanitary sewer line in 2006. The sewer line, itself was not uncovered since the delineation sampling showed the soils at depths from above the pipe to 20 feet deep to be clean (<1.9 ppm), as shown on Figure 5.

Figure 6 shows the 2006 post-remedial confirmation sample results. The 2006 cleanup criterial for the former tank farm area was a not to exceed value of 25 ppm. The soils in the area, after the interim remediation, had an average PCB content of 4.5 ppm (Reference 7).

1.3.2 Vapotherm Process Area

Beginning in 1991, subsurface investigations beneath the plant floor in the former Vapotherm Process Area identified a PCB contaminated LNAPL plume. Figure 29 of Appendix I shows the contour plot of the PCB plume emanating from under the manufacturing building.

Beginning in 1994, interim remedial activities were initiated involving LNAPL removal from recovery wells installed within the LNAPL plume inside the plant. The removal activities continued off and on through the fall of 2010. Overall, hundreds of gallons of LNAPL were recovered from wells within the plant and thousands of additional gallons of oil and/or oil/water mixtures were removed from various sumps/manholes.

In 1995 sewer lines were filmed in the vapotherm area to determine if PCB contaminated oil/water was infiltrating the sewer pipes from the surrounding fill, causing the sewer water discharge to exceed City mandated PCB discharge limits (Reference 6). Pipes that showed in-leakage were lined, as shown on Figure 11, to prevent further PCB infiltration from the surrounding fill. The 10" sanitary sewer line, along which the recent LP borings L1-24 to 28 were found to contain free product, was one of the sewer pipes that was lined. Two new manholes, MH-14, inside the building, just north of the old vapotherm area and MH-7, just outside the building as shown on Figures 4 and 11 were added at that time to allow access to line the 10" sanitary pipe. During the installation of MH-14, PCB oil/water was encountered that seeped into the excavation. 1400 gallons had to be pumped from the MH-14 excavation and disposed of. Samples of the oil and water showed the oil to contain 9.0 mg/kg and the water to contain 6.4 mg/l of PCB (Reference 11).

Two 4" lateral lines, that ran north-south through the former vapotherm area, cross the 10" sanitary sewer line and connect to the 18" storm sewer line running parallel and just north of the sanitary line as shown on Figures 4 and 11. These 4" pipes were too small to line and therefore were filled with grout to take them out of service (Reference 11). Even though these lines were grouted on the inside, the gravel and sand bedding on the outside of the lines can still act as a pathway for PCB-laden LNAPL from the Vapotherm area to flow out to the sanitary sewer line sampled by LP.

1.3.3 Groundwater Investigations

Extensive groundwater investigations have been conducted at the facility by CBS. These investigations included dozens of monitoring wells, LNAPL recovery and extensive sampling. See Appendix I for a summary of the groundwater investigations.

By 2011 LNAPL recovery had diminished. Therefore the monitoring and recovery wells within the facility were abandoned to facilitate Progress Rail's use of the plant for manufacturing.

2.0 Recent PCB Investigations

The recent PCB investigations by CBS and LP for Progress Rail in these areas are discussed below. Additional delineation activities that CBS is proposing in these areas are discussed in Section 3.0. Section 4.0 discusses the remedial activities that are proposed to occur after delineation.

2.1 Western Sewer Line PCBs

2.1.1 LP Environmental 2014 Delineation

Progress Rail was notified by the Muncie Sanitary District in 2013 of the requirement to separate the sanitary and storm sewer lines at the facility. In anticipation of these sewer system changes, LP conducted sampling of soils in and around the existing and proposed new sewer line routes to assess the subsurface. The results of the sampling identified elevated PCB concentrations associated with two of the facility sewer lines, including observed LNAPL oil at certain depths within the soil column around the northern-most Line L1. The results of the sampling are shown on Figure 2 and are listed below:

- Line 1 (north line) - LNAPL was observed from 5-10 ft-bgs only in the borings at L1-23 through L1-28. A sample of the oil at L1-27 contained a PCB concentration of 13,400 ppm. However, the PCB soil sample from 0 to 5 foot at L1-27 was only 0.29 ppm and from 5 to 10 foot was only 7.4 ppm. The only other PCB soil sample from L1-23 through L1-28 that was >1 ppm was the 5 to 10 foot sample at L1-28 which was at 2.4 ppm.

- Line 2 (middle line) – A zero to 6 inch asphalt sample at L2-18Z was found to contain elevated PCBs at 620 ppm in the asphalt. The underlying 0.5' to 5' sample at this same location had only 0.46 ppm. The adjacent asphalt samples at L2-17 and L2-19 were BDL at <0.12 ppm.

The lab report for the above asphalt and soil samples is contained in Appendix D.

2.2 South East Asphalt Roadway PCB Sampling

On October 22, 2012, LP performed pre-construction sampling in preparation for asphalt paving repair work in the roadway around the southeast area of the plant in Area A north / Area B South as shown in Figure 3. . The analytical soil sample results found concentrations of PCBs at each location exceeding the Toxic Substances Control Act (TSCA) standard of 50 ppm. The LP sampling locations are shown on Figure 7 and the results are tabulated in Tables A and B. The lab reports are contained in Appendix E.

2.2.1 Area B/South PCBs

Figure 7 and Table B identifies one asphalt sample from location AP-121 that contained a PCB concentration of 62 mg/kg and one at AP-129 that contained PCBs at 35 mg/kg. These were 0 to 6" samples of the asphalt pavement. None of the surrounding asphalt samples or any of the underlying bedding/soils contained PCBs in excess of the TSCA low occupancy limit of 25 ppm.

LP also took soil boring samples under the asphalt in this area from 0 to 5 and 5 to 10 ft bgs. The highest result obtained in these soil samples was 5.2 mg/kg resulting in the conclusion that none of the soil under the asphalt in the Area B/South contains significant PCB impacts.

CBS considers the Area B/South to be adequately delineated to allow remediation of the asphalt to a cleanup level of 25 ppm. An additional proposed 0 to 6 inch sample of the concrete footer in the area will be taken as shown on Figure 7 to verify if it is clean.

2.2.2 Area A/North PCBs

The 2012 LP sampling locations in Area A/North are shown on Figure 7. One sample, "W of 101", is shown located in a narrow strip of grass between the asphalt pavement and an existing concrete slab. Table A lists a total PCB concentration of 101 mg/kg in a 0 to 6-inch soil sample at this location. Out of a total of 56 samples, this was the only 2012 LP sample exhibiting PCB levels >50 ppm in this area. Two other samples had PCB concentrations above the TSCA low occupancy limit of 25 ppm, one asphalt sample, AP-101 at 32 ppm and one 0 to 5' soil sample at Z-10 at 37 ppm. The concrete foundation was shown to be clean at 0.05 ppm at location Z-11, as shown on Figure 8 and listed in Table A.

CBS took additional samples in Area A/North in January of 2013 to delineate this area to below the TSCA limit of 50 ppm (Reference 12). Figure 8 shows the 2013 CBS results as well as the LP Environmental results. CBS resampled location "W of 101" (AA4) at deeper depth intervals to 5' deep, and stepped out to collect additional samples north, south, east and west of the original location, as shown on Figure 8. The north and south samples were located 10 feet from the original location, while the east and west sampling points were established at the edge of asphalt and edge of concrete, respectively, between 5 and 10 feet from the original "W of 101" location.

The 2013 CBS sampling found that below the surface TSCA at the "W of 101" LP location, all samples from 6 inches to 5 ft deep (at SS4) were below 16.93 ppm. The 2013 CBS sampling found TSCA levels over 50 ppm at only 1 other location, AA3, approximately 5' east of "W of 101" at the edge of the asphalt pavement in the narrow strip of grass. The north and east samples at AA6 and AA5 were all clean, below 25 ppm. The south sample, AA2, contained low level non-TSCA PCB results above the EPA low occupancy limit of 25 ppm from 0 to 1'. Figure 8 shows the analytical results. Appendix F contains the lab reports.

The 2012 LP samples at locations Z-2 and Z-10 exhibited PCB concentrations in the 0 to 5 foot composites at 23 and 37 mg/kg, respectively. Therefore in 2013, CBS resampled these locations collecting samples from smaller, focused depth intervals as shown on Figure 8.

The 0 to 6 inch sample interval for Z-2 was actually collected from the asphalt material and was clean at 0.59 ppm. The underlying bedding material and soil were also found to be clean. Boring AA7 at LP sample Z-10 found the 0 to 0.5' sample to be at 47.1 ppm, above the EPA low occupancy level of 25 ppm.

Three borings, AA8, AA9 and AA10, as shown on figure 8, were added in the field by suggestions of LP Environmental and resulted in all clean results, <13.4 ppm.

3.0 Remedial Objectives and Cleanup Criteria

The objectives of this Remediation Work Plan for the sanitary sewer line and asphalt roadway include additional delineation sampling within the sanitary sewer lines and asphalt roadway, excavation of soils with PCB exceedances, and installation of a new sewer line.

The remedial action objectives (RAOs) for this project provide a general description of what the cleanup will accomplish. Under USEPA guidelines, the presence of PCBs around the western sewer lines and in the southeast roadway areas could present unacceptable risks to human health and the environment. Specific RAO's are listed below.

3. 1 Western Sewer Line PCBs

- Reduce the amount of PCBs around the western sewer lines to allow the storm and sanitary sewer lines to be separated.
- Reduce the amount of PCBs in the asphalt above the middle sewer line, L2, to allow the storm and sanitary sewer lines to be separated.

3.2 South East Asphalt Roadway

- Remove the soils and asphalt in the Area A/North and Area B/South areas to allow the repair of the degraded asphalt roadway located in the rear southeast corner of the facility.

3.3 Cleanup Criteria

The cleanup criteria proposed for this cleanup is the EPA low-occupancy PCB limit of <25 ppm for individual delineation and verification results representing soils and asphalt left in place. Sample results for stockpiled overburden materials that may be returned as backfill within these areas will also be sampled to <25 ppm for reuse. The facility has received a beneficial reuse approval from IDEM for PCB soils, asphalt and concrete less than 25 ppm (Reference 13).

4.0 Remediation Technical Approach

The remediation of the area involves excavating TSCA and low level PCB non-TSCA soils and asphalt with PCB content above the EPA low-occupancy limit of 25 ppm.

The general sequence of events to remediate the property will include:

- Additional Delineation Sampling
- Clearing and access construction

- Establishing grids to determine excavation boundaries
- Removal of contaminated soils, asphalt and sewer pipes and disposal at appropriate licensed landfills
- Confirmation that the excavation meets the required cleanup criteria
- Installation and testing of a new sanitary sewer line
- Backfilling with clean soils and grading to drain
- Restoration

4.1 Pre-Remediation Activities

4.1.1 Clearing and Access Road Construction

Clearing will not be necessary for these areas around the plant. The southwest asphalt roadway areas are accessible by the existing site roads. On the west (front) side of the plant, an access road will be required to get to the northern sewer line area for truck access. Gravel will be laid and compacted from the existing site roadways to a loading area beside the northern sewer line as shown on Figure 10. The middle sewer line, L2, is located beneath an existing asphalt roadway surface that can be used for truck access.

4.1.2 Delineation Sampling

4.1.2.1 Proposed Additional Delineation along the Sewer Lines

Figure 2 shows the LP sampling taken along the sewer lines, L1 and L2, that need to be separated. As indicated above the LP sampling along the proposed route for the new 10" sanitary sewer line showed all the soil samples to be less than 7.4 ppm. Therefore all the soil samples were below the IDEM industrial direct contact default limit. However, it was discovered later that PCB contaminated LNAPL had seeped into the borings at L1-23 to L1-28. CBS believes the most likely source of this LNAPL is historical leakage from the old vapotherm process area along the bedding for the existing sanitary sewer line, as discussed above.

CBS proposes to continue delineation along the L1 sewer lines as shown on Figure 9:

- 2 borings to 12' deep will be placed along the 18" storm sewer from MH7 to MH2 to see if oil is also seeping along the pipe bedding of the storm sewer.

- 1 boring will be placed in the pipe bedding along the combined sewer line out of manhole MH2 to confirm that oil seepage and contamination do not extend beyond MH2.

- 1 boring will be placed in the pipe bedding at the L1-22 location to confirm the LP Environmental sampling results that contamination does not extend past L1-23.

- For the 4 borings into the pipe bedding listed above, care will be taken to push the geoprobe into the pipe bedding without puncturing the sewer pipe itself. The existing pipes will be carefully and accurately located before inserting the geoprobe.

- A first step of 2 borings will be placed 5' south of the existing 10" sanitary line to confirm that the soils clean up south of the existing 10" sanitary pipe trench.

- A second step of 2 additional borings will be placed an additional 5' south and archived. These borings will be analyzed if the first step borings are above the cleanup limit.

Figure 2 shows an LP sample result in the asphalt at the L2-18 location along the middle, L2, sewer line to be TSCA at 620 ppm. The underlying gravel and soil was clean at 0.46 ppm. As indicated above, the adjacent asphalt samples at L2-17 and L2-19 were BDL at <0.12 ppm.

CBS proposes to put a first step of 2 new borings on either side of the L2-18 boring to complete the clean perimeter in the north and south direction. Individual samples will be taken of the asphalt from 0 to 0.5 ft, of the bedding material from 0.5 to 1 ft and of the underlying soil from 1 to 5 ft, as shown on Figure 9. A second step of 6 additional borings will be placed an additional 10 foot step out as shown on Figure 9 and the samples archived. These archived samples will be analyzed if the first step boring samples are above the cleanup limit.

Upon receiving analytical results, additional sampling may need to be planned in order to determine the full extent of PCB contamination. Due to the city imposed deadline for separating the sewer lines, delineation may not totally proceed to the EPA low occupancy limit of 25 ppm before the sewer lines are separated. Delineation may initially only proceed to the point that will allow the sewer lines to be replaced. OSHA Hazwoper qualified plumbers may be required to install the new 10" sewer line on the northern, L1, line. To meet the deadline, additional delineation and peripheral PCB cleanup may occur after the new sewer lines are installed.

4.1.2.2 Proposed Continued Delineation in Area A/North

The 2013 CBS sampling discussed above delineated the Area A/North to a level below 50 ppm. However, CBS now proposes to continue the delineation in this area as shown on Figure 8 to meet the TSCA low occupancy limit of 25 ppm. CBS plans to complete delineation in Area A / North to allow the necessary soils removal work to proceed so that asphalt repairs can be initiated.

Figure 8 shows the following proposed additional samples in Area A/North to allow for two additional delineation steps around sample points that presently exceed 25 ppm:

- 5 additional proposed asphalt samples (in 2 delineation steps) are shown around the LP asphalt sample LP101 @ 32 ppm. Previous asphalt samples AA1 and Z3 provide a clean perimeter to the east. Asphalt samples will be 0 to 0.5 foot composites. Samples from the underlying bedding material from 0.5 to 1 ft will be archived and analyzed if the asphalt above exceeds 25 ppm.

- 7 soil borings (in 2 delineation steps) are proposed around sample AA7 (@ 47.1 ppm) with intervals to 5 foot deep as shown. Previous sample results at Z9 and Z11 provide clean perimeters to the north and south, respectively.

- 2 soil samples are proposed south of AA2 with depth intervals to 5 foot as shown. Previous sample results at Z2/AA1 and Z-3 to the east, AA6 to the north and AA5, Z6 and Z7 to the west, form a clean perimeter in those directions.

- The samples in the first delineation step out will be analyzed or archived as shown in the data boxes on Figure 8. The second step samples will all be archived and only analyzed if needed to continue to search for a clean perimeter.

4.1.2.3 Proposed Continued Delineation in Area B/South

CBS considers the Area B/South to be adequately delineated for asphalt removal. An additional proposed 0 to 6 inch sample of the concrete footer will be taken as shown on Figure 7 to verify if it is clean.

Once the delineation on both the west and east side of the plant is completed, the excavation plan will be revised and updated to remove any additional material found to be >25 ppm.

4.2 Mobilization and Site Setup

Figure 10 shows a layout of a typical site setup. There will probably be no need for a site trailer on site due to the short term of the project. Off road vehicle parking should be available in the present plant parking lots. Room for stockpile areas, laydown areas and access for disposal trucks are shown on Figure 10.

TSCA and non-TSCA load out piles will be located along the disposal truck roadway. An overburden stockpile area will also be designated. The overburden will be sampled for suitability for reuse as backfill. Also shown is an area that will be used for equipment staging and lay down as needed.

CBS also plans to use as backfill, the excavated spoils stockpile that Progress Rail has onsite and that has been approved by IDEM for beneficial reuse (Reference 13). Purchased off site clean backfill will be used to supplement this material as needed.

A portable water treatment system and storage tanks will be set up in the staging area to store potentially contaminated water that is collected. Storm water that collects in open excavations that are still potentially contaminated will be pumped and collected in the tanks for treatment. The water will be treated on site, confirmed clean and disposed of to the City Municipal sewers after approval by the Muncie Bureau of Water Quality.

4.2.1 Work Zones

Before excavation activities, project control zone will be established, which will be secured and restricted from access by Progress Rail employees, the general public and unauthorized personnel. As described in the HASP (Appendix B), the following work areas will be included within the project work zone: 1) the exclusion zone, 2) the contamination reduction zone, and 3) the support zone.

Temporary fences will be constructed around each specific control zone, as required. The fences will restrict unauthorized personnel from accessing the project control zone and will prevent Progress Rail employees and the general public from being exposed to hazardous conditions and / or deep excavations. The Health and Safety Coordinator (HSC) will conduct daily inspections of the work zone fences to ensure that they are secure and in repair.

Entrance into the exclusion and contamination reduction zones will be limited to those individuals who have completed training and medical monitoring in accordance with OSHA regulation 1910.120 and who have provided appropriate documentation to the site HSC. Access will generally be restricted to the remediation contractors and subcontractors directly involved in the cleanup. Actual boundaries of the work zones may vary throughout the course of the project as excavation activities progress.

4.3 Remedial Approach

4.3.1 Western Sewer Line Remediation and Installation

CBS proposes the following remedial activities along the western sewer lines:

- At Progress Rail's request, CBS plans to provide all contractor services for running the new sewer line from the split past L1-21 through the connection to the building near L1-28, as shown on Figure 9. Progress Rail committed to provide backfill, pipe bedding gravel and sand, manholes, etc. and all specifications needed for the project.

- CBS plans to use 10-inch DR 17 HDPE pipe with butt fused joints for the new sewer line to minimize the possibility of any future infiltration.

- CBS proposes to dig up the old 10" sanitary sewer line from MH7 to MH2 and run the new 10" sanitary sewer from MH7 to the new manhole, as shown on Figure 9.

- CBS plans to dispose of the 6 to 12 ft soil and pipe bedding gravel and the old 10" sanitary sewer line from L1-28 to L1-23 as >50 ppm TSCA material. The top 0 to 6 ft of overburden over this sewer line from L1-28 to L1-23 and from 0 to 10' from L1-23 to the junction past L1-21 were sampled by LP Environmental for Progress Rail on 9/30/14 and were shown to be clean as listed in the lab reports in Appendix D. This overburden will be excavated from the sewer line pipe trench and will be confirmed clean by stockpile sampling for reuse as clean backfill. Side wall and bottom confirmation sampling will be performed in the trench after excavation and before pipe installation.

- CBS plans to install one or more bentonite clay trench dams evenly spaced along the pipe alignment across the pipe trench at MH7 to prevent migration of LNAPL from inside the building.

- CBS plans to perform a pressure test of the installed sewer line between manholes MH7 and the new manhole at L1-14.

- CBS plans to complete the rerouting of the sewer lines at the facility by June 30, 2015 to accommodate the Muncie Sanitary District's system-wide work.

- At Progress Rail's request CBS will provide all contractor services for removal of the asphalt and base layer in the L2-18Z area (approximately 60'x10') of the Line L2 middle sewer run shown on Figure 9. The asphalt and base layer from an area of 20'x10' around L2-18 will be disposed of as >50 ppm TSCA material. The clean material on either side of L2-18, around L2-17 and L2-19 will be excavated and placed in the Progress Rail stockpile of asphalt for beneficial reuse, as approved by IDEM (Reference

13). After removal of the asphalt and base layer along the 60' pipe run, the remaining soil surface will be sampled to confirm that all remaining material is <25 ppm.

- Progress Rail will be responsible for excavating and installing piping in this area after the asphalt and base layer are removed.

4.3.2 South East Asphalt Roadway PCB Sampling and Remediation

CBS proposes the following remedial activities in the south eastern roadway areas:

- CBS plans to complete delineation and all necessary soils removal work so that Progress Rail can proceed with asphalt repairs. The remaining soil surfaces in the TSCA excavations will be verified clean by confirmation sampling.

- CBS considers the Area B/South to be adequately delineated for asphalt removal. If the additional proposed concrete sample shown on Figure 7 is >25 ppm, the concrete footer will also be removed and disposed of.

- CBS proposes to remove the asphalt and base layer as >50 ppm TSCA material from around location AP-121 half way out to the surrounding clean samples as shown on Figure 7. Confirmation sampling will be performed on the resulting bottom after the >50 ppm TSCA material is removed.

- The asphalt and base layer around AP-129 in Area B/South will be removed and disposed of as low level PCB waste half way out to the surrounding clean samples, <25 ppm.

- The asphalt around LP sample 101 in Area A/North will be removed and disposed of as low level PCB waste half way out to the surrounding clean delineation samples <25 ppm.

- Soils around Sample locations W101, and AA3 will be removed and disposed of as >50 ppm TSCA half way out to non-TSCA delineation samples. The bottom and sidewalls of >50 ppm TSCA excavations will be verified clean by confirmation sampling.

- PCB soils >25 ppm but less than 50 ppm, around AA7 and AA2 will be excavated half way out to clean delineation samples (<25 ppm) and disposed of as Low level PCB waste.

4.3.3 Soil Removal Approach

After the proposed delineation to the EPA Low Occupancy limits is completed, the following soil excavation approach will be followed to accomplish the activities listed above in both the western sewer line areas and the southeast asphalt roadway areas.

An excavator bucket with a straight blade across the teeth will be used to remove layers to a specified depth below grade. Precautions (berms and/or hay bales) will be taken during rain events so that clean rain water will not run into excavated grids and turbid water from the excavated grids will not be washed out onto clean surfaces.

Wet materials may require drying for disposal to remove free water. It is preferred that any wet soils for disposal be mixed with other dry soils of the same disposal class (dry non-TSCA with wet non-TSCA or dry TSCA with wet TSCA). Drying agents will only be added if draining or mixing will not dewater the soils sufficiently for shipping. Drying agents such as flyash, kiln dust or a commercially available lime based drying agent may be used, but only after approval from CBS.

To prevent driving on dirty surfaces and spreading contamination, the excavation process will work from the clean perimeter and proceed inward. All grid excavation and any required confirmation sampling and re-excavations will be completed in a grid before clean excavation equipment is permitted to drive onto the surface of the remediated grid to access the next adjacent dirty grid.

An alternate approach would be to place excavation equipment inside the contaminated area and leave it there until excavation is complete. The equipment would require decontamination before it is allowed to re-enter the clean area. Over-the-road trucks will be loaded on a clean truck loading pad.

The remediation steps will generally include:

1. Perform any additional clearing that is required.
2. A grid system will be laid out over the area to be excavated.
3. A temporary clean truck loading area will be built between the excavation area and truck access road. A possible location for over-the-road truck loading is shown on Figure 10. The truck loading area will be kept on clean, dry material.
4. Direct loading from the contaminated exclusion zone may be used. The over-the-road trucks must always remain on clean, dry material.
5. A load out (stockpile) area for low level PCB non-TSCA and TSCA soils, as well as potentially clean overburden as shown in Figure 10, will be prepared. Stockpiles of contaminated materials to be disposed of can be kept on contaminated grid surfaces that will ultimately be excavated. If contaminated stockpiles are stored on clean grids, the material will be placed on an impermeable liner. After all load out is complete, the soil under the TSCA and special stockpiles will be sampled to confirm it is clean. If necessary, after the contaminated soil is loaded out, a surface scrape will also be removed and disposed.
6. The overburden stockpiles will also be placed on an impermeable liner and treated as contaminated until it is confirmed to be clean.
7. Low level PCB non-TSCA grid intervals will be excavated and kept segregated from TSCA grid intervals.
8. Berms will be placed around stockpiles to prevent rain water runoff. Stockpiles will be covered if rain is imminent. Berms will be placed around excavated grids, if rain is a possibility, to prevent surface water from flowing into grid excavations during excavation or before they are confirmed to be below the cleanup criteria. Erosion control measures, such as silt fence and hay bales, will be installed to prevent turbid water from flowing into existing surface drainage features.

9. Rain water will be contained and collected in any excavated grid that requires confirmation sampling until the grid is shown to meet the cleanup criteria. Water within the load out stockpile berms will be contained. Contained water will be pumped directly to storage tanks to be staged for treatment and disposal.
10. Water will be treated to the Muncie bureau of Water Quality disposal limits and disposed of to the municipal sanitary sewer after approval is received.
11. Grids identified during delineation to exceed the limit of <25 ppm will be excavated.
12. After excavation the bottom and sidewalls of targeted excavated grids, as discussed in Section 5.0 below, will be sampled for verification to determine PCB level.
13. If the verification sample analytical result exceeds the corresponding not-to-exceed value, at least an additional 6 inches of soil will be removed and additional verification sampling will be performed.
14. Any grid which is excavated to bedrock will not require confirmation sampling. As bedrock is very deep in these areas, this is not anticipated.
15. The remediation areas will be backfilled, compacted and final graded so they drain without ponding. At least one inch of topsoil will be added over the disturbed area.
16. Gravel brought on site will be removed to an area specified by Progress Rail. Excess gravel, if any, will be disposed of.
17. Disturbed areas will be restored by seeding and covering with straw.

5.0 Verification Sampling and Re-excavation

Extensive pre-excavation delineation will have been completed for the contaminated areas during the delineation sampling events, as discussed above. The lateral and vertical extent of contamination will have been essentially established in the areas to be remediated, and the proposed excavations will be bounded by clean delineation samples. During this remediation, additional verification soil sampling and analysis will also be performed. To verify the success of the remediation, a verification sampling strategy that includes collecting and analyzing soil samples from the bottom and sidewalls of targeted excavated areas will be implemented.

Post-excavation verification will be based on pre-remediation soil delineation data that exceeds specified trigger levels. Residual grid bottoms that were in direct contact with an excavated TSCA layer will be sampled for verification. Also, residual sidewalls that were in direct contact with an excavated TSCA layer will be sampled for verification.

Verification samples will be obtained according to the Sampling and Analysis Plan (Appendix A), the QAPP (Appendix C) and the specific soil sampling procedures in the CBS Field Procedure FP-16, Soil Sampling in Appendix G. The QAPP also contains decontamination and sample handling procedures that will be followed at this site.

As indicated above, due to the city imposed deadline for separating the sewer lines, verification sampling and re-excavation of the trench sidewalls of the northern sewer line, L1, may not totally proceed to the EPA low occupancy limit of 25 ppm before the old sewer line is removed and the new sanitary sewer line is installed. Sidewall verification sampling may initially only proceed to the point that will allow the sewer lines to be replaced. Hazwoper qualified plumbers may be required to install the new 10” sewer line on the northern, L1, line. To meet the deadline

additional delineation and peripheral PCB cleanup to the 25 ppm limit may occur after the new sewer lines are installed.

5.1 Grid Bottom Verification Sampling and Re-excavation

Grids designated for confirmation sampling will be split into subgrids containing approximately 100 square feet, each. Therefore, a typical 20 foot x 20 foot grids will require four subgrid grabs. One 0 to 6 inch grab will be taken in the approximate center of each subgrid and composited and homogenized.

If the verification sample analytical result exceeds the corresponding not-to-exceed value of 25 ppm, then an additional 6 inches of soil will be removed followed by additional verification sampling. Material may be removed from the entire grid, or the quadrant grab samples may be analyzed separately and the excavation may then focus on one or more sub-grids as appropriate.

5.2 Grid Sidewall Verification Sampling and Re-excavation

Excavation sidewalls will typically be verified by 20 feet long increments along sidewalls where TSCA was removed. To sample the sidewall, four, 0 to 6 inch surface grab samples will be taken (typically spaced 5 ft apart, along the sidewall where the TSCA layer that was removed was in contact. The four subsamples will be composited.

If this composite sample result is greater than the not-to-exceed value of 25 ppm, the sidewall will be excavated an additional one foot further back over the 20 foot length and re-verified. This will be repeated if necessary, as schedule permits due to the city imposed deadline discussed above.

5.3 Stockpile Sampling

The excavation of the old sewer line will result in more than 200 cubic yards of overburden that will be sampled to determine if it can be re-used as backfill. This material will be stockpiled on an impermeable liner and sampled according to the stockpile sampling procedure in Section A.3.3 of the SAP in Appendix A to verify it meets the cleanup criteria before reusing it as backfill. The nominal stockpile size for sampling will be up to 60 cubic yards. Appendix H contains CBS Field Procedure FP-26 for Backfill and Stockpile Sampling.

If the stockpile PCB level of < 25 ppm is not exceeded, the stockpile will be considered suitable for use as backfill in the sewer line excavation. If the composite sample result is greater than 25 ppm it will be disposed of offsite. If the PCB content is less than 50 ppm it will be sent as Special Waste, if greater than 50 ppm the stockpile will be sent off as TSCA.

Asphalt and soil below the EPA low-occupancy limit of 25 ppm may also be placed into the beneficial reuse piles being maintained by Progress Rail.

5.4 Backfill Sampling

Purchased clean clays and topsoil may be brought on site and used as backfill. This material will be confirmed clean by sampling the first truck load (or the off-site source) by composite sampling. One grab sample per each 6 cubic yards in the first truckload will be composited. Backfill soil sampling will be performed according to the procedures in Section A.3.4 of the SAP in Appendix A. Appendix H contains CBS Field Procedure FP-26 for Backfill and Stockpile Sampling.

6.0 Waste Transportation and Disposal

According to the preliminary pre-excavation delineation sampling, the preliminary estimated disposal tonnages are:

- 350 ton TSCA
- 100 ton low level PCB non-TSCA

The general approach to transporting and disposing of waste from this project involves loading soil into lined dump trucks that are tarped and shipping the waste to permitted disposal facilities. The total disposal tonnage will be approximately 450 tons. Based on an average of 20 tons per truckload, approximately 20 to 25 truckloads total of contaminated soil will be shipped from the site. The scheduled duration for excavation and disposal is less than 2 weeks.

The site remediation contractor's transportation coordinator will coordinate the transportation of all shipments of regulated waste from the site.

6.1 Transportation

Contracts will be placed with one or more waste transporters subject to approval by CBS. The waste transporters may be contracted by CBS separately, through the disposal facility, or through the site remediation contractor. The transporter's DOT safety record will be a key component of the transporter selection process. All trucks will comply with DOT requirements.

Daily coordination with the waste transporter will ensure an adequate number of trucks are available each day, Monday through Friday, to dispose of the waste excavated that day. Trucks will be staged in a manner that will expedite daily loading and movement.

A route map will be posted showing the route that the loaded trucks will take from the site to each permitted disposal facility.

6.2 Truck Inspections

All trucks will be inspected as they arrive at the site to ensure that they are sound and empty prior to being loaded. Empty trucks to be used for regulated waste shipments will be lined prior to loading. As soon as a truck is filled, the liner will be closed and the truck will be covered with a tarp, and dispatched to the disposal facility. An adequate supply of liners and tarps will be

maintained on site throughout the project. Unsuitable or dirty trucks will be rejected and not allowed on site.

All loaded trucks will be inspected to insure there are no free liquids. The truck will be securely and fully tarped. The outside of the truck will be inspected to ensure that there is no dirt on the sides of the truck bed, on the tailgate or on the tires before it leaves the site.

6.3 Truck Log Records

On site truck scales are not planned because of the low volume of material. Truck loads will be estimated on site visually and by the number of excavator buckets loaded or by axle scales on the individual trucks. Actual calibrated scale weights will be obtained from the landfills where material is taken for disposal.

If temporary truck scales are used, however, they will be calibrated before first use. The calibrated truck scales would be utilized to assure that individual trucks are not excessively under loaded or overloaded. Each truckload of contaminated material would be weighed on these scales prior to being transported to the disposal facility. The empty tare weight of each truck would be taken into account for all truck loads.

A unique and sequential tracking number will be assigned to each load, and a tally of the weight placed in each truck will be maintained. A daily summary will be prepared of all trucks loaded and dispatched. At a minimum, an electronic waste tracking spreadsheet will provide the following information:

- Trucking company name
- Truck identification number
- Unique sequential load number
- Manifest number
- Tare weight of the truck (if a scale is used)
- Loaded (estimated) weight of the truck
- Time of departure from the site
- Name of the destination landfill

The CBS on site representative or his designee will be responsible for the management of records associated with waste transportation and disposal on this project. This person and the site remediation contractor will each maintain a complete set of records associated with waste shipment and disposal (e.g., load tickets, landfill receipts, and manifests). In addition, electronic spreadsheet tables will be maintained in accordance with the format specified by the CBS on site representative. All electronic files will be backed up.

6.4 Manifesting and Placarding

State of Indiana or Federal EPA manifests will be used for all shipments of regulated waste from the site. The site USEPA identification number will appear on each TSCA manifest, and the truck weights that are estimated or determined with scales will be used to complete the manifests. Manifests will be prepared and signed by the site remediation contractor's transportation coordinator on behalf of CBS. Manifest and load numbers will be logged into a

manifest tracking system. All dump trucks will be properly placarded before leaving the site. Placards will be placed on the sides and back of each truck and will comply with DOT specification HM-126F.

6.5 Disposal Facilities

All disposal facilities will be selected and contracted by CBS, subject to the approval of the USEPA. The preferred disposal facility for material with PCB content >50 ppm is the Heritage Subtitle C Landfill in Roachdale, Indiana. This material will be disposed of under the Megarule, 40 CFR Part 761.61, with the approval of USEPA Region 5. An alternative disposal facility is the EQ TSCA Landfill in Belleville, Michigan. The preferred disposal facility for low level PCB non-TSCA material is the Waste Management Jay County Landfill, in Danville, Indiana. These facilities have all been used in the past by CBS with EPA Region V approval.

6.6 Solid Waste and Fuel Spill Contingency Plans

6.6.1 Solid Waste Spills

Wherever possible, both on site and over-the-road trucks will be parked on solid ground during loading. Trucks may not travel across disturbed or partially excavated areas in which the truck tires may encounter impacted soils.

A secondary containment liner will be placed on the ground at the truck loading area to collect any accidental spillage during loading operations. Site remediation contractor personnel will be responsible for promptly cleaning any spillage from the liner to prevent trucks from tracking through any spilled soils prior to leaving the site. To prevent spillage during hauling, all trucks will be lined and tarped and trucks will be loaded so that at least 6 inches of freeboard is present around the entire rim of the truck bed.

6.6.2 Fuel and Lubricant Spills

All fuels will be stored in a designated fuel storage area in accordance with OSHA Regulation 29 CFR 1926.152. The fuel storage area will be clearly marked, will include adequate secondary containment, and will be barricaded to prevent vehicle accidents. Fire extinguishers, absorbent pads, oil dry, and plastic shovels will be stored in the immediate area for use in the event of a spill.

7.0 Water Management

The management of storm water and other water encountered during remediation is divided into four components:

1) The diversion of rain water run-on away from areas with known contamination to diversion channels or sumps. This includes damming and diversion around any excavation area.
2) The retention of any storm water that comes in contact with potentially impacted soil or debris.

3) The collection, storage and transfer of potentially impacted storm water or groundwater from the collection areas to a water treatment system.
4) Water treatment and disposal.

7.1 Diversion of Clean Storm Water

Rainfall and run off flow from rain events will be diverted away, as much as possible, from coming into contact with potentially contaminated material in the excavations, load out areas, stockpile areas, decontamination and truck loading areas. To accomplish this, temporary earthen or straw bale berms, sandbags or other control measures will be constructed around these features that appear to lie in the natural drainage path.

Storm water that can be diverted onto clean surfaces away from site excavations and other contaminated areas will be discharged to existing surface drainage features. Silt fences and hay bales will be used to prevent turbid water from discharging to surface drainage features.

Stockpiles of contaminated soils will be covered during rain events.

7.2 Retention and Treatment of Potentially Impacted Water

Any storm water that does come in contact with contaminated materials will be contained, and collected for treatment. Storm water that falls on or runs onto contaminated or suspect areas that have not been confirmed to satisfy the cleanup criteria will be collected, pumped to temporary storage tanks, and held there until it can be sent for water treatment. All accumulated surface water and groundwater in the open soil excavations will be pumped to holding tanks so that soil excavation can continue. Removal of accumulated sub-grade water or groundwater will be accomplished using sump pumps.

A water treatment system based on activated carbon will be provided on site to treat potentially contaminated water. A waste water discharge permit will be obtained from the Bureau of Water Quality of the Muncie Sanitary District. Treated water will be sampled to verify that the discharge limits imposed by the city are satisfied before the treated water is discharged to the city sanitary sewer.

Alternately, the collected water may be sampled to determine if the batch is below discharge limits and therefore can be discharged without treatment.

7.3 Wastewater Spill Prevention and Control

The site remediation contractor will mobilize all necessary pumps, hoses, storage containers, vacuum, and other equipment needed to respond to any incidental release of wastewater and to remove, containerize, and manage all liquids recovered during a wastewater spill.

A storage tank will be used to hold potentially contaminated water pending treatment. The water storage tank will be placed on an HDPE liner, with a perimeter berm including adequate secondary containment, and a water collection sump to collect and remove any spilled wastewater.

8.0 Air Monitoring

Perimeter air monitoring is not anticipated due to the small volumes to be excavated and the low PCB levels identified. Instead, a “no visual dust” standard will be followed and monitored at the perimeter of the project work area. Under this protocol, if an excavation or loading operation is deemed to be in violation, the excavation or loading procedures will be modified or water sprays will be employed. If any additional air monitoring requirements are set forth by the government parties, they will be implemented.

9.0 Site Restoration

Following completion of soil excavation and all other remediation activities, the site will be restored to a condition mutually agreed to between CBS, IDEM, the USEPA and the site owner. Debris from clearing operations, incidental surface debris and other waste generated during remediation will be collected and disposed of at a municipal solid waste landfill or otherwise, as appropriate.

9.1 Grading and Seeding

Excavations will be backfilled as necessary to provide for site drainage and minimize the potential for ponding and infiltration of water into the backfilled excavations. Any overburden that has been verified to be clean, soils from Progress Rail’s beneficial re-use stockpiles and purchased clean backfill will be used as backfill. The first load of purchased backfill will be stockpile sampled according to the procedure described in Sections 5.4 and A.3.4 to confirm it is free of PCBs.

Leftover clean soil stockpiles and leftover backfill will be spread out around the site as directed by Progress Rail. Excess gravel will be removed or placed as directed by Progress Rail. Site restoration will involve grading of the finished soil surface within and around the excavation areas to drain.

In all fill areas, backfill and overburden soils will be spread or placed in up to 12 inch loose lifts and compacted. At least one inch of purchased top soil will be spread over the disturbed area of the site. All disturbed areas will be seeded and mulched. Following seeding, straw or hydromulch will be placed over the area to promote seed germination and the development of grass cover.

9.2 Erosion Controls

Following the completion of final grading and seeding, the site remediation contractor will apply erosion control netting over graded areas that are susceptible to erosion. In addition, the site remediation contractor will install silt fencing or may use straw bales at the outfall into existing storm water control structures and surface ditches to collect silt and other sediment.

Following installation, the CBS on site representative or his designee and the government parties will inspect all erosion/sedimentation controls. The site remediation contractor will install

any additional erosion/sedimentation controls as deemed necessary by the CBS on site representative, his designee, or the government representatives.

10.0 Project Closeout and Completion Report

At the conclusion of the project, a punch list of remaining action items will be prepared. All work on the punch list will be completed to the satisfaction of the CBS on site representative or his designee and the government parties prior to final demobilization from the site.

After the completion of all work specified in the Remediation Work Plan, CBS will submit a final completion report to the USEPA, as discussed in Section 11.2.3.

11.0 Project Organization and Administration

11.1 Organizations, Roles, and Responsibilities

CBS Corporation is the corporate entity responsible for implementation of the provisions of this plan. The CBS Project Director has overall responsibility for the company's involvement in the project. The CBS Onsite Representative will report to the Project Director. The CBS Onsite Representative will be responsible for implementation and completion of the project on behalf of CBS. Other key roles on this project are the Site Remediation Contractor hired by CBS to execute the work described in the RWP and the government oversight agency. The key roles and personnel are:

Project Director		
CBS Corporation	Russell Cepko	412-642-2569
CBS Onsite Representative		
PSARA Technologies, Inc.	To Be Determined	513-791-4418
Site Health and Safety Coordinator	TBD	
PSARA Technologies, Inc.		513-791-4418
Site Remediation Contractor	TBD	
Site Superintendent		
Transportation Coordinator		
Site Sampling Leader		
PSARA Technologies, Inc.	Carl Ketchem	513-608-1175
Government Agencies		
U.S. EPA Region 5		
IDEM		
Delaware County		
City of Muncie		
Other Subcontractors		
Analytical Laboratory	Pace Analytical Laboratory	

Disposal Sites

TSCA:	Heritage Subtitle C Landfill, Roachdale, IN
Special Waste:	Jay County Waste Management Subtitle D Landfill

11.1.1 Project Director

The Project Director will have overall responsibility to meet the project objectives and quality standards and can commit staff and financial resources to the project as required. The Project Director, or designee, will represent CBS at meetings with the U.S. EPA.

11.1.2 CBS Onsite Representative

The CBS Onsite Representative will have overall responsibility for all aspects of the remediation project and will report directly to the Project Director. The Onsite Representative or his designee will have direct supervision of the Site Remediation Contractor and Site Sampling Leader and will ensure that all remediation activities are performed in accordance with the RWP and pursuant to the master schedule. The Onsite Representative or his designee will:

- Hold daily project meetings with the remediation contractor and the sampling contractor to coordinate sampling and water management activities with the excavation progress
- Document work progress and identify problems or special circumstances to be addressed by the Project Director
- Be responsible for maintaining all field files, project tracking
- Prepare daily progress reports
- Review and approve Remediation Contractor, Sampling Contractor, Analytical Laboratory and Disposal facility invoices
- Serve as the day-to-day point of contact with the U.S. EPA On-Scene Coordinator (OSC) or his designee.
- Serve as the day-to-day point of contact with the remediation Contractor and Site Sampling Leader

11.1.3 Site Health and Safety Coordinator

The Site Health and Safety Coordinator (HSC) will have primary responsibility for the daily implementation of the Health and Safety Plan (HASP) at the site (Appendix B). The HSC or his/her designee will oversee all health and safety issues associated with excavation, air monitoring, site inspections, decontamination of equipment and personnel, and materials leaving the site. The HSC will verify proper training of all site personnel and will have the authority to require the use of personal protective equipment as outlined in the HASP. As part of each morning's tailgate meeting, the HSC will address safety issues for the work planned for that day. The HSC will have stop work authority if methods or practices are unsafe in his opinion. The HASP is provided in Appendix B.

11.1.4 Site Remediation Contractor

The Site Remediation Contractor will be the corporate entity responsible for implementation of all work specified in the contract documents. The Site Remediation Contractor will report directly to the CBS Onsite Representative or his designee. The Site Remediation Contractor will be responsible for overseeing all operations related to demolition, excavation, construction, handling, transportation, and disposal of materials from the site. The Site Remediation

Contractor will be responsible for ensuring that all work activities are performed in accordance with the requirements of the RWP and the HASP.

11.1.5 Site Superintendent

The Site Superintendent will be a member of the Site Remediation Contractor's staff assigned full time to this project. The Site Superintendent will direct all remediation operations by the Site Remediation Contractor and will be the day-to-day point of contact for coordination with the Onsite Representative and the sampling leader. The Site Superintendent will be responsible to assign and coordinate all Site Remediation Contractor work crews and equipment to complete the scope of work in accordance with the RWP and master schedule for the project.

11.1.6 Transportation Coordinator

The Transportation Coordinator will be a member of the Site Remediation Contractor's staff responsible for all operations related to scheduling, loading, transportation, and disposal of wastes and other materials from the site, including labeling, manifesting, and placarding waste shipments in accordance with all applicable U.S. Department of Transportation (DOT) rules and regulations. The Transportation Coordinator will maintain a daily truck log for each load of TSCA or non-TSCA low level PCB waste shipped, as described in Section 6.3.

11.1.7 Site Sampling Leader

The Site Sampling Leader will be responsible for leading and coordinating the various day-to-day sampling and remediation activities with the Site Remediation Contractor and analytical laboratory during the project. The Site Sampling Leader will also be responsible for any water storage and water sampling required and for any supplemental water treatment required. The Site Sampling Leader will report to the CBS Onsite Representative. The Site Sampling Leader will:

- Attend daily project meetings to coordinate sampling and water management activities with the excavation progress.
- Coordinate all verification soil and water sampling activities with the remediation contractor.
- Coordinate sample pickup and overnight sample result reports from the lab.
- Track and log all soil and water confirmation and delineation sampling files on the project.
- Be responsible for waste water storage, sampling and disposal.
- Coordinate waste water disposal with the Muncie Sanitary Bureau.
- Observe and evaluate survey work performed by the Site Remediation Contractor.
- Observe the progress of the work and evaluate site conditions for compliance with the provisions of the RWP and the HASP.
- Evaluate the remediation contractor's compliance with the personnel air monitoring requirements of the site HASP.
- Perform and track any general monitoring required

11.1.8 Government Agencies

The U.S. EPA Remedial Project Manager (RPM) is the U.S. EPA Regional point of contact and will represent the EPA in the administration of the CDA. This person, or his designee, will

participate in the development of the objectives and requirements of the Field Sampling Plans (FSP) and Remediation Work Plans (RWP) for the project and will review all plans, procedures, and verification data developed on this project. IDEM, Delaware County and the City of Muncie may also be involved in administering the project.

11.1.9 Other Subcontractors

Other subcontractors will be identified as they are selected. Other subcontractors may contract directly with CBS, the Site Sampling Leader or with the Site Remediation Contractor where approved by the Project Director or his/her designee. Subcontractors will include analytical laboratories, trucking firms, plumbing contractors, surveying firms, tree services and a host of suppliers.

11.2 Project Meetings and Reporting

11.2.1 Project Meetings

Project meetings will consist of daily meetings between the CBS Onsite Representative or his designee and the Site Remediation Contractor and Site Sampling Leader. Daily meetings will be used to review work recently completed, work planned for the day and health and safety issues. The CBS Onsite Representative or his designee will ensure that all issues raised in these meetings are addressed in a timely manner and that decisions made in meetings are clearly and concisely documented in the progress summary reports.

Meetings with the government agencies for updates will be held as requested by the agencies or by CBS to present any recommended changes to this Work Plan for agency approval. Telephone calls may be substituted for meetings if agreed upon by the government parties.

11.2.2 Project Reports

Project reporting will consist of Daily Progress Reports to the CBS Project Director. Daily progress reports will consist of a brief narrative of the day's activities and will be issued electronically to the Project Director. Progress reports will also address problems encountered and the overall schedule for the project. The report will be distributed electronically to the Project Director and oversight staff, the Site Remediation Contractor, and the OSC or his designee.

11.2.3 Completion Report

Following completion of all remediation activities described herein, CBS will prepare a comprehensive project report that summarizes all work performed as part of this remediation project. Specifically, the report will include a discussion of pre-excavation delineation activities, excavation activities, final quantities and disposition of removed wastes, verification sampling procedures and results, final area PCB averages and/or UCLs, restoration activities, and water treatment. The completion report will include color-coded post-excavation verification sampling data maps depicting final excavation depths. Extensive documentation consisting of, but not limited to, the following items will be available for review but not included in the report:

- Sample logs
- Chain of custody records
- Certificates of analysis

- Sampling progress maps
- Excavation progress maps
- Daily safety logs
- Daily tailgate safety meeting records
- Photo documentation
- Shipping manifests
- Disposal receipts

11.3 Project Schedule

The Muncie Sanitary District requires the sewer separation to be performed by the end of June. Figure 12 provides a proposed project schedule for the site delineation and remediation activities. Delineation sampling is shown to occur thru April, 2015. The remediation project described in this Work Plan is to be initiated on May 18, 2015 and completed by the end of June 2015.

The selected Site Remediation Contractor will provide his own schedule during the bid/contractor selection phase of the project. However the contractors schedule will be required to show the remediation complete by the end of June. The CBS Onsite Representative or his designee will be responsible for tracking the progress of those activities.

12.0 References

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4. Phase I Subsurface Investigation Perimeter Survey, PSARA Technologies, Inc. for ABB Power T&D Company, Muncie, IN, August 1991

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10. Guidance for the Data Quality Objectives Process, EPA QA/G-4, USEPA, August 2000.

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12. PSARA, Procedure for Further Delineation Sampling, Asphalt Areas A and B, Progress Rail Facility, Muncie, Indiana, January, 2013

13. Approval letter “Use of Certain Excavated Soil, Concrete, Asphalt Spoils”, from Bruce Palin, IDEM to Rick Gittings, Arizona Maricopa Assoc., September 7, 2012

TABLES

Table A

South East Asphalt Roadway - Area A/North - Sample Summary

TABLE A/NORTH - SAMPLE SUMMARY MUNCIE, INDIANA						
ID	MEDIA	DEPTH (ft-bgs)	DATE	PCB 1248 (mg/kg)	PCB 1254 (mg/kg)	TOTAL (mg/kg)
AP-96	Asphalt	0 - 0.5	6/21/2011	**0.60**	<0.086	0.64
AP-97	Asphalt	0 - 0.5	6/21/2011	**1.0**	**0.72**	1.7
AP-98	Asphalt	0 - 0.5	6/21/2011	**0.80**	**0.60**	1.4
AP-99	Asphalt	0 - 0.5	6/21/2011	**2.9**	<0.086	2.9
AP-100	Asphalt	0 - 0.5	6/21/2011	**1.3**	**0.80**	2.1
AP-101	Asphalt	0 - 0.5	6/21/2011	**31**	<1.7	32
AP-102	Asphalt	0 - 0.5	6/21/2011	<0.088	**0.43**	0.47
AP-103	Asphalt	0 - 0.5	6/21/2011	**0.87**	**0.56**	1.4
AP-104	Asphalt	0 - 0.5	6/21/2011	**1.9**	<0.085	1.9
AP-105	Asphalt	0 - 0.5	6/21/2011	**0.94**	<0.086	1.0
AP-106	Asphalt	0 - 0.5	6/21/2011	<0.087	**0.27**	0.31
AP-107	Asphalt	0 - 0.5	6/21/2011	**0.35**	<0.086	0.39
SW of 101	Top Soil	0 - 0.5	7/18/2011	<0.17	**8.6**	8.7
W of 101	Top Soil	0 - 0.5	7/18/2011	**100**	<1.8	**101**
NW of 101	Top Soil	0 - 0.5	7/18/2011	<0.17	**9.4**	9.5
AP-211	Top Soil	0 - 0.5	8/2/2011	<0.18	**4.9**	5.0
AP-212	Top Soil	0 - 0.5	8/2/2011	<0.18	**0.69**	0.78
AP-213	Top Soil	0 - 0.5	8/2/2011	<0.17	**0.54**	0.63
AP-214	Top Soil	0 - 0.5	8/2/2011	<0.18	**1.8**	1.9
AP-215	Top Soil	0 - 0.5	8/2/2011	<0.17	**3.4**	3.5
Z-1	At-depth Soil	0 - 5	1/31/2012	**7.0**	<0.92	7.5
Z-1	At-depth Soil	5 - 10	1/31/2012	<0.019	<0.019	0.019
Z-2	At-depth Soil	0 - 5	1/31/2012	**23**	<0.99	23
Z-2	At-depth Soil	5 - 10	1/31/2012	**0.50**	<0.018	0.51
Z-3	At-depth Soil	0 - 5	1/31/2012	**0.24**	<0.018	0.25
Z-3	At-depth Soil	5 - 10	1/31/2012	**0.23**	<0.018	0.24
Z-4	At-depth Soil	0 - 5	1/31/2012	<0.019	<0.019	0.019
Z-4	At-depth Soil	5 - 10	1/31/2012	**0.068**	<0.019	0.078
Z-5	At-depth Soil	0 - 5	1/31/2012	**0.044**	<0.019	0.054
Z-5	At-depth Soil	5 - 10	1/31/2012	**0.085**	<0.018	0.094
Z-6	At-depth Soil	0 - 5	1/31/2012	**0.31**	<0.019	0.32
Z-6	At-depth Soil	5 - 10	1/31/2012	**0.031**	<0.018	0.040
Z-7	At-depth Soil	0 - 5	1/31/2012	**0.16**	<0.019	0.17
Z-7	At-depth Soil	5 - 10	1/31/2012	**0.085**	<0.018	0.094
Z-8	At-depth Soil	0 - 5	1/31/2012	<0.019	<0.019	0.019
Z-8	At-depth Soil	5 - 7.5	1/31/2012	<0.020	<0.020	0.020
Z-8	At-depth Soil	7.5 - 10	1/31/2012	<0.018	<0.018	0.018
Z-9	Top Soil	0.0-0.5	1/31/2012	<0.019	**0.38**	0.39
Z-9	At-depth Soil	0-5	1/31/2012	<0.019	<0.019	0.019
Z-9	At-depth Soil	5-7.5	1/31/2012	<0.019	<0.019	0.019
Z-9	At-depth Soil	7.5-10	1/31/2012	<0.018	<0.018	0.018
Z-10	Top Soil	0.0-0.5	1/31/2012	<0.019	**0.76**	0.77
Z-10	At-depth Soil	0-5	1/31/2012	**36**	<2.0	37
Z-10	At-depth Soil	5-10	1/31/2012	**0.30**	<0.019	0.31
Z-11	Concrete	0.0-0.5	1/31/2012	**0.044**	<0.018	0.053
Z-11	At-depth Soil	0-5	1/31/2012	**1.5**	<0.019	1.5
Z-11	At-depth Soil	5-10	1/31/2012	**17**	<0.94	17
Z-12	At-depth Soil	0-5	1/31/2012	**1.2**	<0.019	1.2
Z-12	At-depth Soil	5-10	1/31/2012	**1.8**	<0.018	1.8
Z-36	At-depth Soil	0 - 5	2/1/2012	**0.32**	<0.018	0.33
Z-36	At-depth Soil	5 - 9	2/1/2012	**0.058**	<0.019	0.068
Z-36	At-depth Soil	9 - 10	2/1/2012	<0.018	<0.018	0.018
Z-37	At-depth Soil	0 - 5	2/1/2012	<0.018	**0.17**	0.18
Z-37	At-depth Soil	5 - 10	2/1/2012	<0.018	**0.030**	0.039
Z-38	At-depth Soil	0 - 5	2/1/2012	**0.20**	<0.017	0.21
Z-38	At-depth Soil	5 - 10	2/1/2012	**0.21**	<0.020	0.22

NOTES: **1)** Total = Summation of listed PCBs.
2) Below-detections treated as one-half detection level for statistical analysis.

Table B

South East Asphalt Roadway - Area B/South- Sample Summary

TABLE B/SOUTH - SAMPLE SUMMARY MUNCIE, INDIANA						
ID	MEDIA	DEPTH (ft-bgs)	DATE	PCB 1248 (mg/kg)	PCB 1254 (mg/kg)	TOTAL (mg/kg)
AP-108	Asphalt	0 - 0.5	6/21/2011	<0.086	**0.77**	0.81
AP-111	Asphalt	0 - 0.5	6/21/2011	**1.6**	<0.087	1.6
AP-113	Asphalt	0 - 0.5	6/21/2011	**2.5**	<0.086	2.5
AP-114	Asphalt	0 - 0.5	6/21/2011	**2.5**	<0.086	2.5
AP-118	Asphalt	0 - 0.5	6/21/2011	**3.8**	<0.086	3.8
AP-119	Asphalt	0 - 0.5	6/21/2011	**2.3**	<0.086	2.3
AP-120	Asphalt	0 - 0.5	6/21/2011	**0.21**	<0.085	0.25
AP-121	Asphalt	0 - 0.5	6/21/2011	**62**	<0.86	**62**
AP-122	Asphalt	0 - 0.5	6/21/2011	**0.23**	<0.085	0.27
AP-123	Asphalt	0 - 0.5	6/21/2011	**12**	<0.34	12
AP-124	Asphalt	0 - 0.5	6/21/2011	**20**	<0.34	20
AP-125	Asphalt	0 - 0.5	6/21/2011	**3.8**	<0.17	3.9
AP-126	Asphalt	0 - 0.5	6/21/2011	**9.9**	<0.34	10
AP-127	Asphalt	0 - 0.5	6/21/2011	**17**	<0.34	17
AP-128	Asphalt	0 - 0.5	6/21/2011	**1.8**	<0.087	1.8
AP-129	Asphalt	0 - 0.5	6/21/2011	**35**	<0.86	35
AP-130	Asphalt	0 - 0.5	6/21/2011	**1.8**	<0.17	1.9
AP-138	Asphalt	0 - 0.5	6/21/2011	**20**	<0.086	20
AP-203	Asphalt	0 - 0.5	7/18/2011	**0.48**	<0.17	0.57
AP-204	Asphalt	0 - 0.5	7/18/2011	**0.28**	<0.17	0.37
AP-205	Asphalt	0 - 0.5	7/18/2011	**16**	<0.17	16
AP-206	Asphalt	0 - 0.5	7/18/2011	**1.1**	<0.17	1.2
AP-207	Asphalt	0 - 0.5	7/18/2011	**0.41**	<0.17	0.50
AP-216	Asphalt	0 - 0.5	8/2/2011	<0.34	**0.57**	0.74
Z-16	At-depth Soil	0 - 5	1/31/2012	**0.023**	<0.020	0.033
Z-16	At-depth Soil	5 - 10	1/31/2012	<0.019	<0.019	0.019
Z-17	At-depth Soil	0 - 5	1/31/2012	<0.019	<0.019	0.019
Z-17	At-depth Soil	5 - 10	1/31/2012	<0.018	<0.018	0.018
Z-18	At-depth Soil	0 - 5	1/31/2012	<0.021	<0.021	0.021
Z-18	At-depth Soil	5 - 10	1/31/2012	<0.021	<0.021	0.021
Z-19	At-depth Soil	0 - 5	1/31/2012	<0.020	<0.020	0.020
Z-19	At-depth Soil	5 - 10	1/31/2012	<0.021	<0.021	0.021
Z-20	At-depth Soil	0 - 5	1/31/2012	<0.020	<0.020	0.020
Z-20	At-depth Soil	5 - 10	1/31/2012	<0.019	<0.019	0.019
Z-21	At-depth Soil	0 - 5	1/31/2012	**1.0**	<0.020	1.0
Z-21	At-depth Soil	5 - 10	1/31/2012	<0.019	<0.019	0.019
Z-22	At-depth Soil	0 - 5	1/31/2012	<0.017	**0.036**	0.0445
Z-22	At-depth Soil	5 - 10	1/31/2012	<0.018	<0.018	0.018
Z-23	At-depth Soil	0 - 5	1/31/2012	<0.021	<0.021	0.021
Z-23	At-depth Soil	5 - 10	1/31/2012	<0.018	<0.018	0.018
Z-24	At-depth Soil	0 - 5	1/31/2012	<0.020	<0.020	0.020
Z-24	At-depth Soil	5 - 10	1/31/2012	**0.026**	<0.019	0.0355
Z-25	At-depth Soil	0 - 5	1/31/2012	<0.022	<0.022	0.022
Z-25	At-depth Soil	5 - 10	1/31/2012	<0.021	<0.021	0.021
Z-26	At-depth Soil	0 - 5	1/31/2012	**5.2**	<0.022	5.2
Z-26	At-depth Soil	5 - 10	1/31/2012	**0.088**	<0.021	0.10
Z-27	At-depth Soil	0 - 5	1/31/2012	**0.32**	<0.022	0.33
Z-27	At-depth Soil	5 - 10	1/31/2012	<0.019	<0.019	0.019
Z-28	At-depth Soil	0 - 5	1/31/2012	**1.2**	<0.89	1.6
Z-28	At-depth Soil	5 - 10	1/31/2012	<0.018	<0.018	0.018
Z-29	At-depth Soil	0 - 5	1/31/2012	<0.021	<0.021	0.021
Z-29	At-depth Soil	5 - 10	1/31/2012	<0.019	<0.019	0.019
Z-30	At-depth Soil	0 - 5	2/1/2012	<0.021	<0.021	0.021
Z-30	At-depth Soil	5 - 10	2/1/2012	<0.018	<0.018	0.018
Z-31	At-depth Soil	0 - 5	2/1/2012	<0.21	<0.21	0.21
Z-31	At-depth Soil	5 - 10	2/1/2012	<0.019	<0.019	0.019
Z-32	At-depth Soil	0 - 5	2/1/2012	<0.021	<0.021	0.021
Z-32	At-depth Soil	5 - 10	2/1/2012	<0.018	<0.018	0.018

NOTES: **1)** Total = Summation of listed PCBs.
2) Below-detections treated as one-half detection level for statistical analysis.

Table C

Sampling Requirements
Muncie
Sediment and Asphalt Sampling

Sample Type	Container Size	Preservative	Holding Time
Soil samples	1 Glass, 4-oz, jars per sample	4°C	14 days to extract, 40 days to analyze
Rinseate samples	Glass, 1-liter	4°C	7 days to extract, 40 days to analyze

MS/MSD Samples - two additional 4 oz. containers will be provided for designated MS/MSD samples

Table D

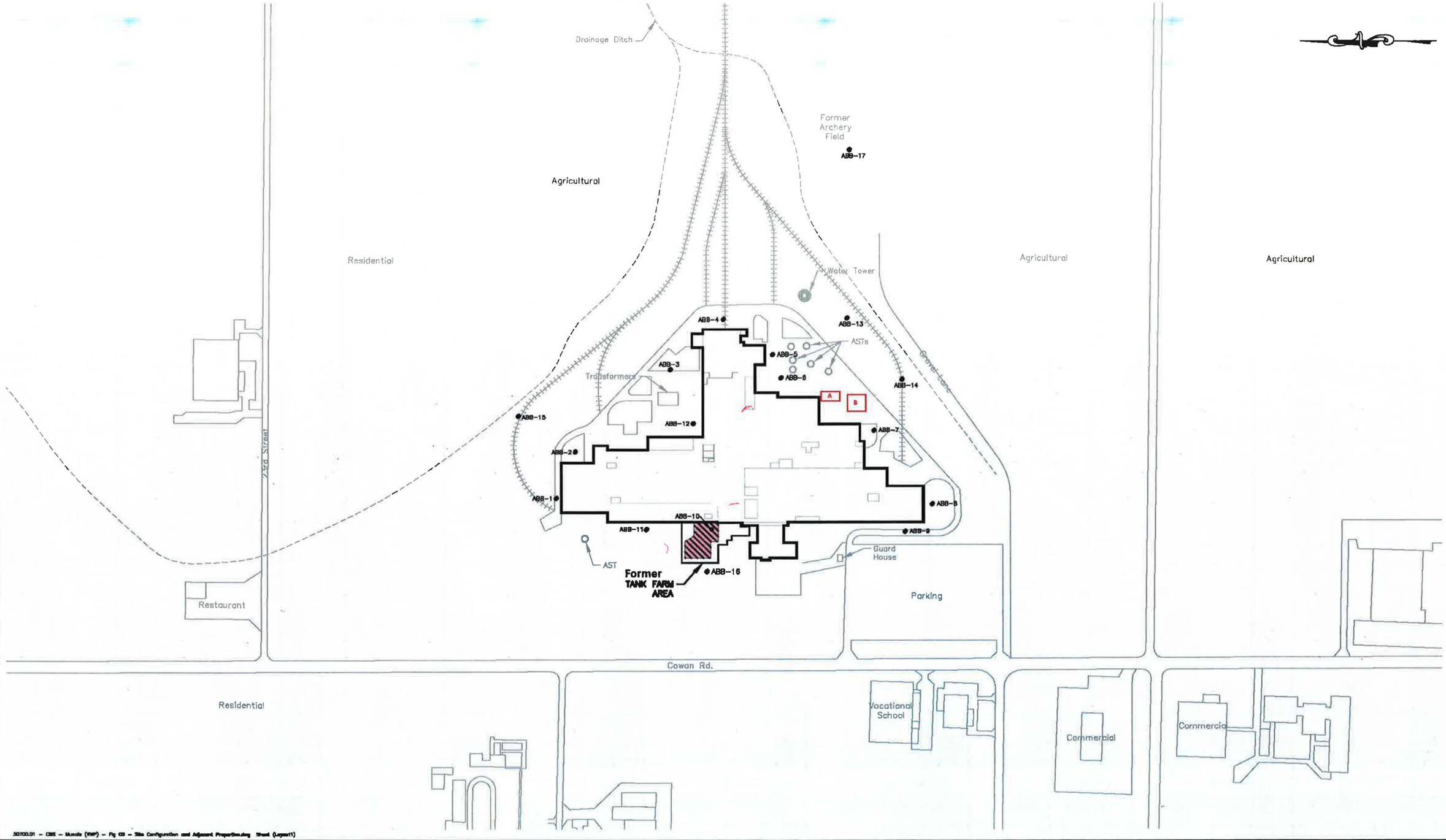
Analytical Parameters

Parameter	Analytical Method*	Reporting Units	Detection Limit
Solids content	EPA Method 2540B (160.3)	% solids by mass	--
Aroclor PCBs (solids)	EPA SW846 Methods 3545 or 3550 / 8082	mg/kg on a dry weight basis	0.1 mg/kg
Aroclor PCBs (liquid, rinseate)	EPA SW846 Methods 3510 / 8082	ug/L	0.1 ug/L

note:

* Extraction method / analytical method, i.e. SW846 Methods 3545 / 8082

FIGURES



50700.01 – CBS – Muncie (YMP) – Fig 02 – Site Configuration and Adjacent Properties.dwg Sheet (Layout1)

PSARA TECHNOLOGIES, INC.

LEGEND

ABB-9● = Building Perimeter Boring

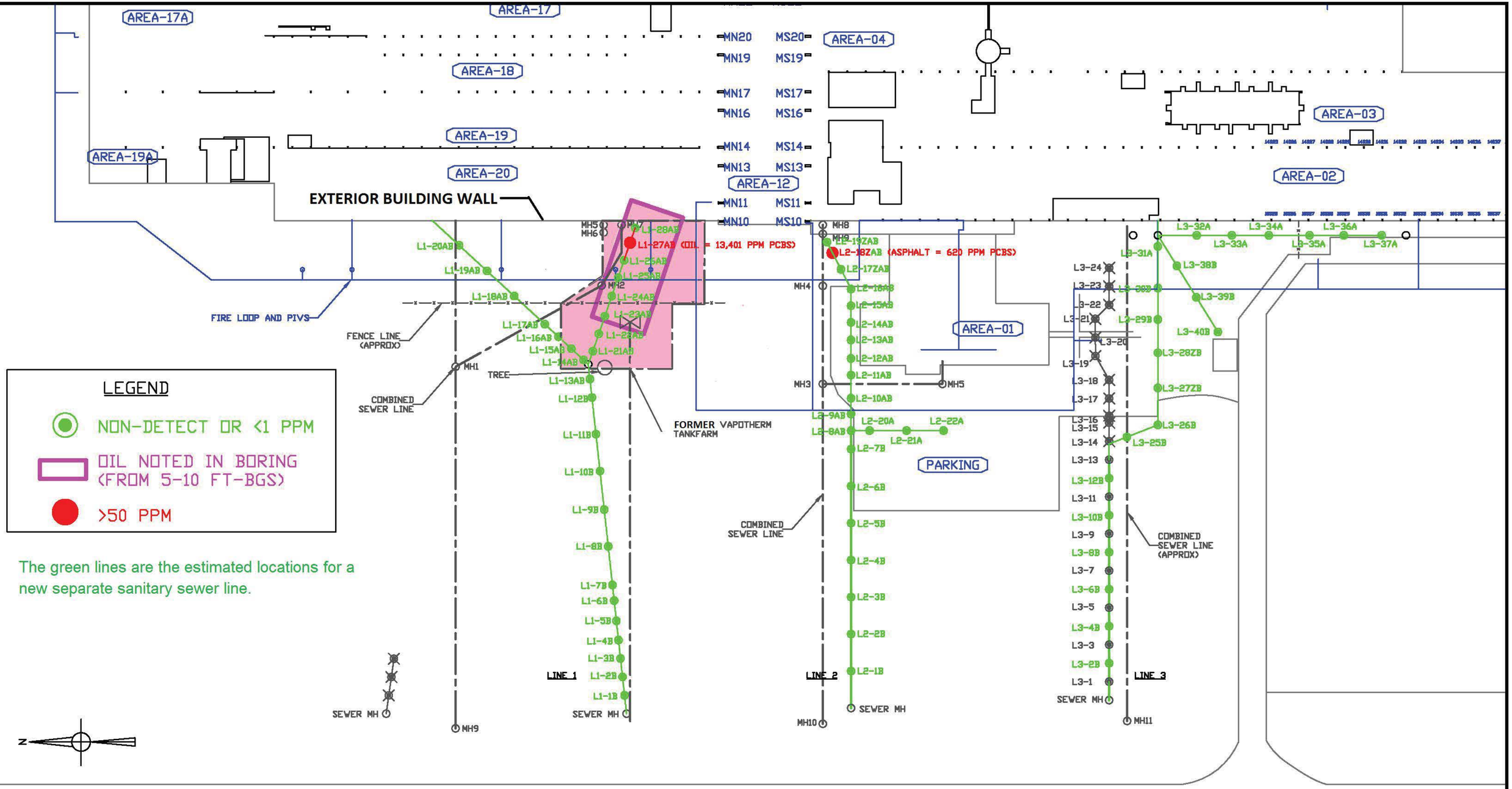
CBS Corporation

Figure 1

Site Layout

Former ABB Facility, Muncie, Indiana

Drawn By:	Date:	Scale:
ELR	8/7/03	1"=400'

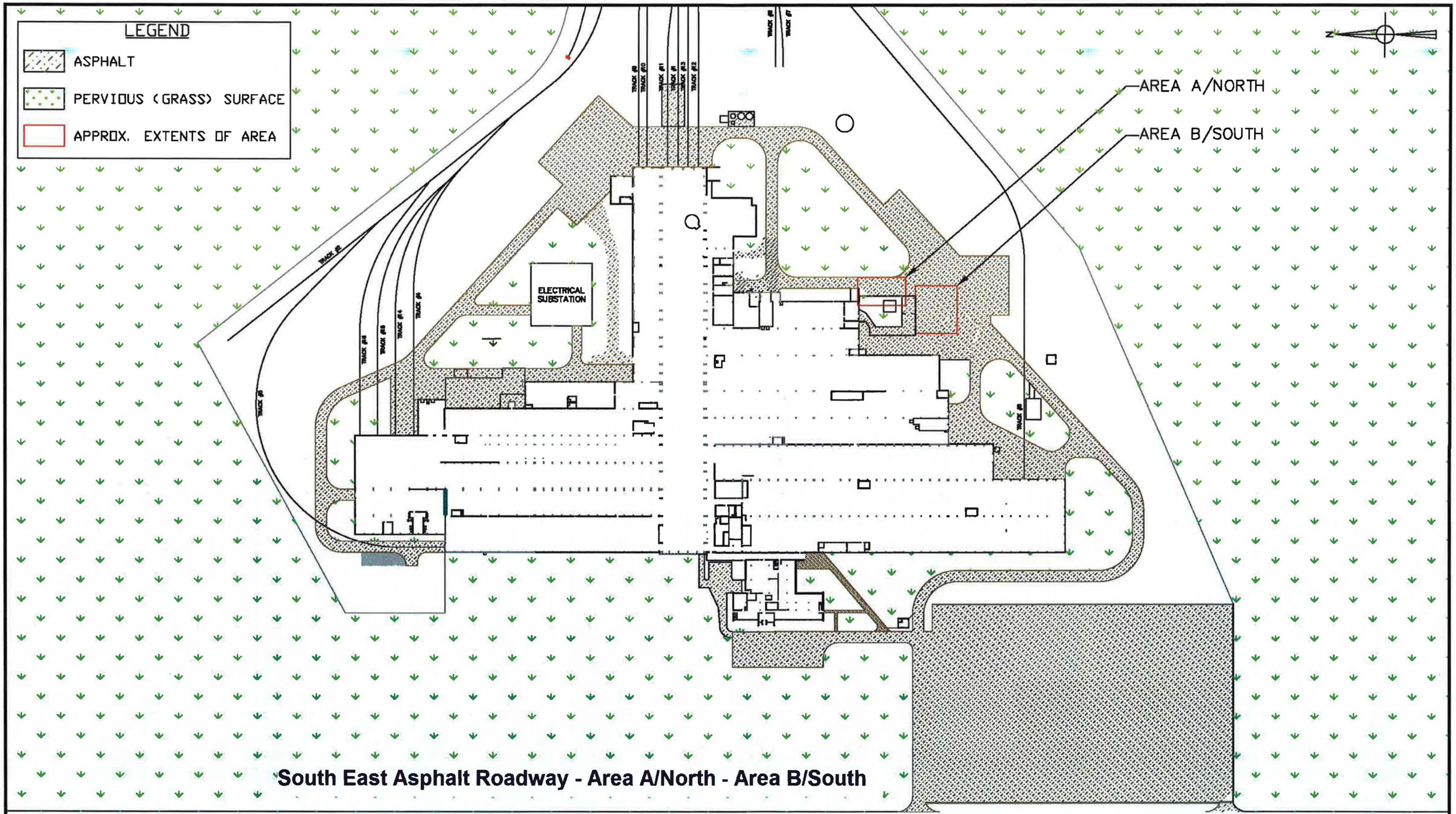


LEGEND

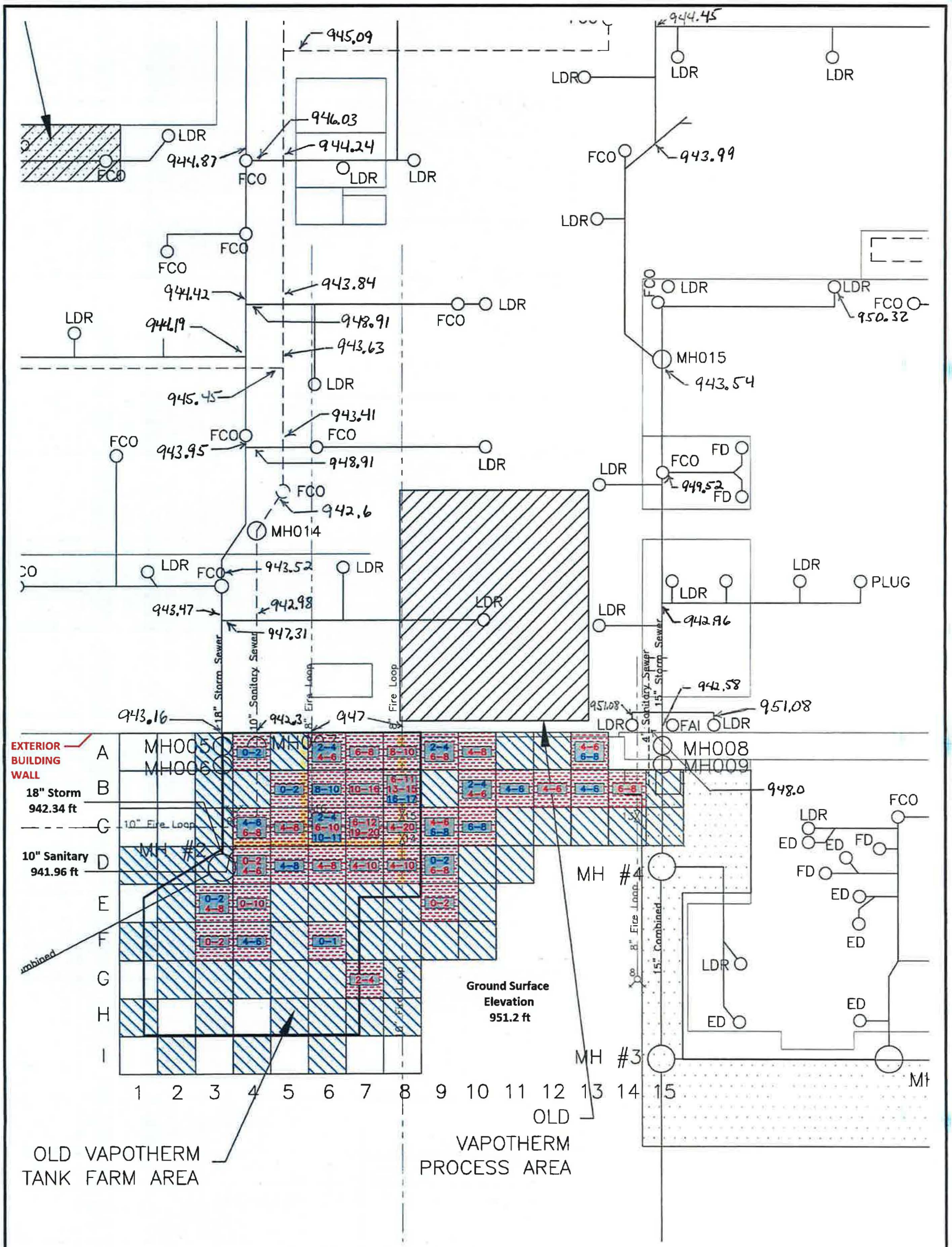
- NON-DETECT OR <1 PPM
- OIL NOTED IN BORING (FROM 5-10 FT-BGS)
- >50 PPM

The green lines are the estimated locations for a new separate sanitary sewer line.

LP ENVIRONMENTAL 4721 Trousdale Dr, Suite 127 615-457-3308 Nashville, TN 37220 www.lpeng.com	PROJECT NO: 2014-0288	REV NO:	DESCRIPTION:	DRAWN BY:	DATE:	SITE DIAGRAM	THIS DRAWING MAY CONTAIN CONFIDENTIAL AND/OR PRIVILEGED INFORMATION. ANY UNAUTHORIZED REVIEW, USE, PRINTING, SAVING, COPYING, DISCLOSURE, OR OTHER DISTRIBUTION IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO SURVEY GRADE. INFORMATION IS BASED ON PUBLICALLY AVAILABLE DATA AND BELIEVED ACCURATE BUT NOT GUARANTEED.
	DRAWN BY: LGP SCALE: 1"=100'	3	REVISED SAMPLE GRID BASED ON PRS SCOPE CHANGES	LGP	9/25/2014	SEWER SEPARATION SAMPLING	
	DATE: 9/5/2014 REV NO: 5	4	ADDED PRELIM AND FINAL DATA (COLOR CODED)	LGP	10/8/2014	3500 SOUTH COWAN ROAD	
	100 0 100	5	ADDED FINAL DATA (COLOR CODED)	LGP	10/30/2014	MUNCIE, INDIANA	FIGURE 2



LP ENVIRONMENTAL 4701 Trousdale Dr, Suite 123 615-457-3369 Nashville, TN 37220 www.lpeng.com	PROJECT NO: 2011-0090	REV NO:	DESCRIPTION:	DRAWN BY:	DATE:	SITE DIAGRAM PROGRESS RAIL MANUFACTURING 3500 SOUTH COWAN ROAD MUNCIE, INDIANA	THIS DRAWING MAY CONTAIN CONFIDENTIAL AND/OR PRIVILEGED INFORMATION. ANY UNAUTHORIZED REVIEW, USE, PRINTING, SAVING, COPYING, DISCLOSURE, OR OTHER DISTRIBUTION IS STRICTLY PROHIBITED. THIS DRAWING IS NOT TO SURVEY GRADE. INFORMATION IS BASED ON PUBLICALLY AVAILABLE DATA AND BELIEVED ACCURATE BUT NOT GUARANTEED.
	DRAWN BY: BKM SCALE: 1"=200'						
	DATE: 2012-08-29 REV NO: 0						FIGURE 3
	200 0 200						



LEGEND

- Soil grid containing less than the selected cleanup criterion for PCBs at all sample depths.
- Soil grid containing PCBs at levels above the selected cleanup criterion
- Section of Fire loop that was replaced
- 6–8 Depth interval(s) that will be disposed of as TSCA Soil
- Depth interval(s) that will be disposed of as Special Waste

PSARA TECHNOLOGIES, INC.

CBS Corporation

Figure 4
Planned Excavation Depths & Pipe Invert Elevations
Former Vapotherm Tank Farm Area
ABB Site, Muncie, Indiana

Drawn by:	Date:	Scale:
SAS	12/22/06	1"=50'

MH #5

MH #6

MH #7

MH #8

MH #9

MH #2

MH #4

MH #3

18" Storm Sewer

10" Fire Loop

8" Sanitary Sewer

8" Fire Loop

Combined Sewer

L1-28 L1-27 L1-26 L1-25 L1-24 L1-23

9/00	PCB
0-20	BDL

9/01	PCB
0-1	3.9
1-2	1.3

9/00	PCB
0-2	29
2-20	BDL

11/04	PCB
0-2	0.39
2-4	0.047
4-6	9.7
6-16	BDL
18-20	0.040

9/00	PCB
0-2	BDL
2-4	25
4-6	470
6-16	BDL
18-19	3.4
19-20	BDL

11/04	PCB
0-4	BDL
4-6	7.1
6-8	59
8-10	1.2
10-16	BDL
16-18	0.15
18-20	BDL

9/00	PCB
0-2	14
2-8	BDL
8-10	230
10-12	BDL
12-13	1.7
13-14	BDL
14-15	1.2
15-18	BDL
18-19	2.5
19-20	BDL

11/04	PCB
0-2	1.1
2-4	27
4-6	21
6-8	131
8-10	19.6
10-12	0.051
12-14	0.030
14-20	BDL

9/00	PCB
0-2	BDL
2-4	1.5
4-6	51
6-8	55
8-11	BDL
11-12	1.8
12-13	2.8
13-20	BDL

11/04	PCB
0-2	0.040
2-4	14
4-6	3.6
6-8	14
8-10	17
10-20	BDL

9/00	PCB
0-4	BDL
4-6	3.3
6-8	7.5
8-10	8.0
10-20	BDL

9/01	PCB
0-2	BDL
2-4	9.1
4-6	110
6-8	34
8-10	16
10-20	BDL

9/01	PCB
0-2	1.4
2-4	3.6
4-6	3.1
6-8	50
8-10	9.4
10-11	6.5
11-20	BDL

9/00	PCB
0-2	2.0
2-20	BDL

4/06	PCB
0-2	0.090
2-4	0.048
4-6	BDL
6-8	0.300
8-12	BDL

9/00	PCB
0-2	2.5
2-20	BDL

9/01	PCB
0-2	2.8
2-4	3.4
4-6	3.3
6-8	4.4
11-12	1.8
12-20	BDL

9/00	PCB
0-2	38
2-4	3.6
4-6	BDL
6-8	3.4
8-10	0.58
10-12	78
12-20	BDL

11/04	PCB
0-2	0.210
2-4	7.8
4-6	3.4
6-8	0.58
8-10	78
10-12	0.020
12-20	BDL

9/00	PCB
0-2	BDL
2-4	1.3
4-6	6.1
6-8	4.1
8-10	6.0
10-11	53
11-12	20
12-13	55
13-14	34
14-15	300
15-18	540
18-20	BDL

9/00	PCB
0-2	4.8
2-4	BDL
4-8	NR
8-10	3.4
10-11	5.7
11-12	5.8
12-13	4.7
13-14	4.5
14-15	24
15-16	18
16-17	1.1
17-20	BDL

11/04	PCB
0-2	4.7
2-4	40
4-6	54
6-8	0.690
8-10	BDL
10-12	0.045
12-20	BDL

9/00	PCB
0-2	BDL
2-4	7.4
4-8	27
8-10	6.8
10-13	BDL
13-14	1.2
14-16	BDL
16-17	1.8
17-20	BDL

11/04	PCB
0-2	5.5
2-4	1.8
4-6	110
6-8	0.170
10-12	0.055
12-14	0.024
14-20	BDL

9/00	PCB
0-2	7.9
2-4	15
4-6	34
6-20	BDL

9/00	PCB
0-2	2.8
2-4	3.4
4-6	0.58
6-8	78
8-10	0.020
10-20	BDL

9/00	PCB
0-2	BDL
2-4	44
4-6	19.9
6-8	560
8-10	69
10-11	42
12-20	BDL

9/00	PCB
0-2	1.3
2-4	2.8
4-6	100
6-8	48
8-10	23
10-11	1.3
11-20	BDL

9/00	PCB
0-2	5.1
2-4	BDL
4-8	3.8
8-8	34
8-10	8.2
10-11	1.5
11-20	BDL

11/04	PCB
0-2	0.560
2-4	0.047
4-6	0.140
6-8	BDL
8-10	0.088
10-12	BDL
12-14	0.019
14-16	BDL
16-18	0.063
18-20	0.170

9/00	PCB
0-2	6.4
2-20	BDL

9/01	PCB
0-20	BDL

9/00	PCB
0-8	BDL
8-10	1.4
10-20	BDL

9/00	PCB
0-2	2.0
2-20	BDL

9/01	PCB
0-2	4.1
2-16	BDL

4/06	PCB
0-2	4.5
2-5	BDL
8-10	0.260
10-12	BDL

9/01	PCB
0-2	9.8
2-8	BDL
8-10	11
10-11	7.3
11-12	1.9
12-20	BDL

9/01	PCB
0-2	11
2-4	BDL
4-6	28
6-8	93
8-10	1.8
10-14	BDL
14-15	1.1
15-16	1.9
16-20	BDL

9/01	PCB
0-2	60
2-4	7.0
4-6	76
6-8	9.1
8-20	BDL

9/00	PCB
0-2	24
2-4	BDL
4-6	48
6-8	41
8-10	2.3
10-20	BDL

11/04	PCB
0-2	0.270
2-4	4.8
4-6	119
6-8	122
8-10	13
10-12	0.055
12-14	0.098
14-16	0.250
16-20	BDL

9/00	PCB
0-2	2.0
2-4	4.2
4-6	220
6-8	83
8-10	1200
10-20	BDL

9/00	PCB
0-2	BDL
2-4	16
4-6	110
6-8	1100
8-10	110
10-11	3.7
11-12	1.3
12-13	1.6
13-14	3.5
14-15	2.0
15-16	2.1
16-20	BDL

9/00	PCB
0-2	38
2-4	BDL
4-6	4.3
6-8	110
8-10	9.8
10-20	BDL

9/01	PCB
0-2	3.6
2-6	BDL
6-8	6.3
8-20	BDL

9/01	PCB
0-17	BDL

9/00	PCB
0-20	BDL

9/01	PCB
0-2	32
2-4	BDL
4-6	98
6-8	140
8-10	8.3
10-20	BDL

9/01	PCB
0-16	BDL

9/00	PCB
0-2	11
2-20	BDL

9/01	PCB
0-17	BDL

9/00	PCB
0-20	BDL

9/01	PCB
0-2	54
2-20	BDL

9/01	PCB
0-20	BDL

9/00	PCB
0-20	BDL

9/01	PCB
0-2	BDL
1-2	BDL
4/06	PCB
2-12	BDL

9/00	PCB
0-2	200
2-20	BDL

9/01	PCB
0-2	15
2-4	BDL
4-6	30
6-8	2.6
8-20	BDL

9/00	PCB
0-20	BDL

9/01	PCB
0-1	34
1-2	BDL
5/06	PCB
0-6	ND
6-8	0.024

9/00	PCB
0-2	6.1
2-20	BDL

4/06	PCB
0-2	0.080
2-4	BDL
4-6	BDL

9/01	PCB
0-1	1.2
1-2	BDL
4/06	PCB
2-6	BDL

4/06	PCB
0-2	0.310
2-6	BDL

9/00	PCB
0-20	BDL

9/01	PCB
0-1	1.8
1-2	BDL
4/06	PCB
0-2	0.500
2-4	BDL
4-6	0.044
6-10	BDL

9/00	PCB
0-20	BDL

4/06	PCB
0-2	0.250
2-10	BDL

9/00	PCB
0-2	4.6
2-20	BDL

4/06	PCB
0-2	1.4
2-4	240
4-6	0.020

5/06	PCB
0-2	5.7
2-8	BDL

9/00	PCB
0-20	BDL

5/06	PCB
0-8	BDL

9/00	PCB
0-20	BDL

5/06	PCB
0-2	0.061
2-8	BDL

9/00	PCB
0-20	BDL

9/00	PCB
0-20	BDL

9/00	PCB
0-20	BDL

9/00	PCB
0-2	51
2-4	49
4-6	400
6-8	350
8-10	420
10-11	8.9
11-12	4.0
12-13	3.7
13-14	4.4
14-15	1.4
15-16	BDL
16-17	1.8
17-18	2.1
18-19	2.9
19-20	2.6

C7

9/00	PCB
0-4	BDL
4-6	5.0
6-8	320
8-10	1400
10-11	100
11-12	780
12-13	3.0
13-16	BDL
16-17	12
17-18	BDL
18-19	2.9
19-20	4400
20-21	0.042
21-22	0.041
22-23	BDL
23-24	BDL
24-25	0.041
25-26	0.073
26-28	BDL

C8

9/00	PCB
0-2	BDL
2-4	4.1
4-6	180
6-8	93
8-10	74
10-11	12
11-12	120
12-13	1200
13-14	3100
14-15	1300
15-16	430
16-17	3800
17-18	3100
18-19	2300
19-20	270
20-21	0.490
21-22	0.058
22-28	BDL

B8

9/00	PCB
0-2	7.1
2-4	19
4-6	12
6-8	180
8-10	340
10-11	150
11-12	6.2
12-13	9.1
13-14	210
14-15	98
15-16	1.5
16-17	27
17-18	BDL
18-19	1.1
19-20	1.6

30700.00 – CBS – Muncie (SS-ST) – Figure 5 – Pre-Excavation Sampling Results.dwg

PSARA TECHNOLOGIES, INC.

BDL Below Detection Limits
NR No Recovery
RED Denotes ≥50 ppm PCBs (TSCA soil)
CYAN Denotes ≥25 and <50 ppm PCBs (non-TSCA Soil)

Depth Interval, ft.

9/00	PCB
0-2	4.8
2-20	BDL

PCB Concentration, ppm

LEGEND

Soil Boring Location (LP Environmental)

Sewer Lines

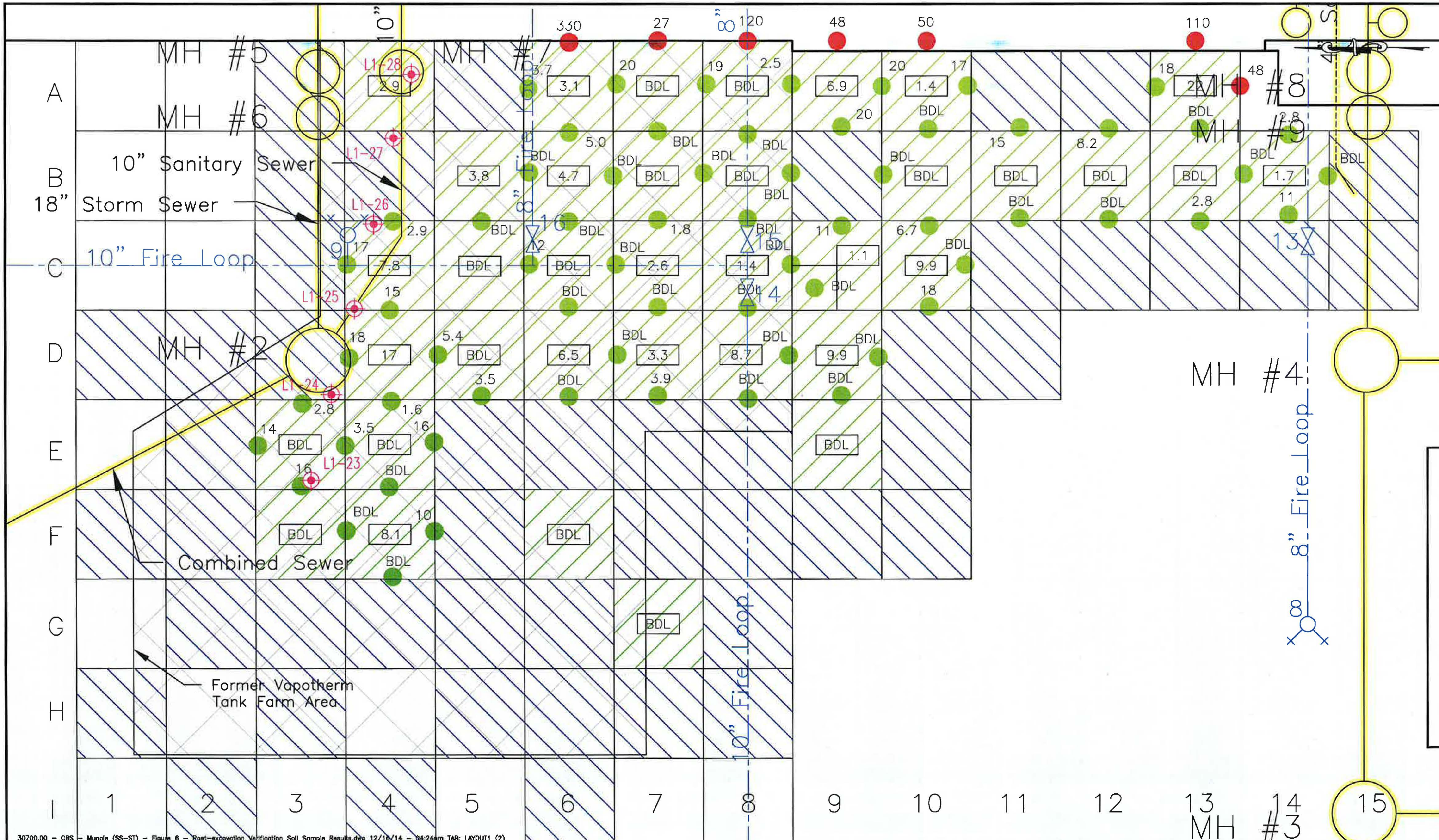
Fire Loop Line

Graphic Scale
0 10 20
(In Feet)

CBS Corporation

Figure 5.
Pre-Excavation Sampling Results
Former Vapotherm Tank Farm Area
Muncie, Indiana

Drawn By:	Date:	Scale:
RLR	12/16/14	1"=20'



PSARA TECHNOLOGIES, INC.

LEGEND

BDL Below Detection Limits
RED Denotes ≥25 ppm PCBs
11 ● Sidewall Sample and PCB Result, ppm
3.3 Composite PCB Result for Grid Bottom

Denotes Excavated Grid to <25ppm PCBs
Denotes Grid not Excavated

Sewer Lines
Fire Loop Line

Graphic Scale
0 10 20
(In Feet)

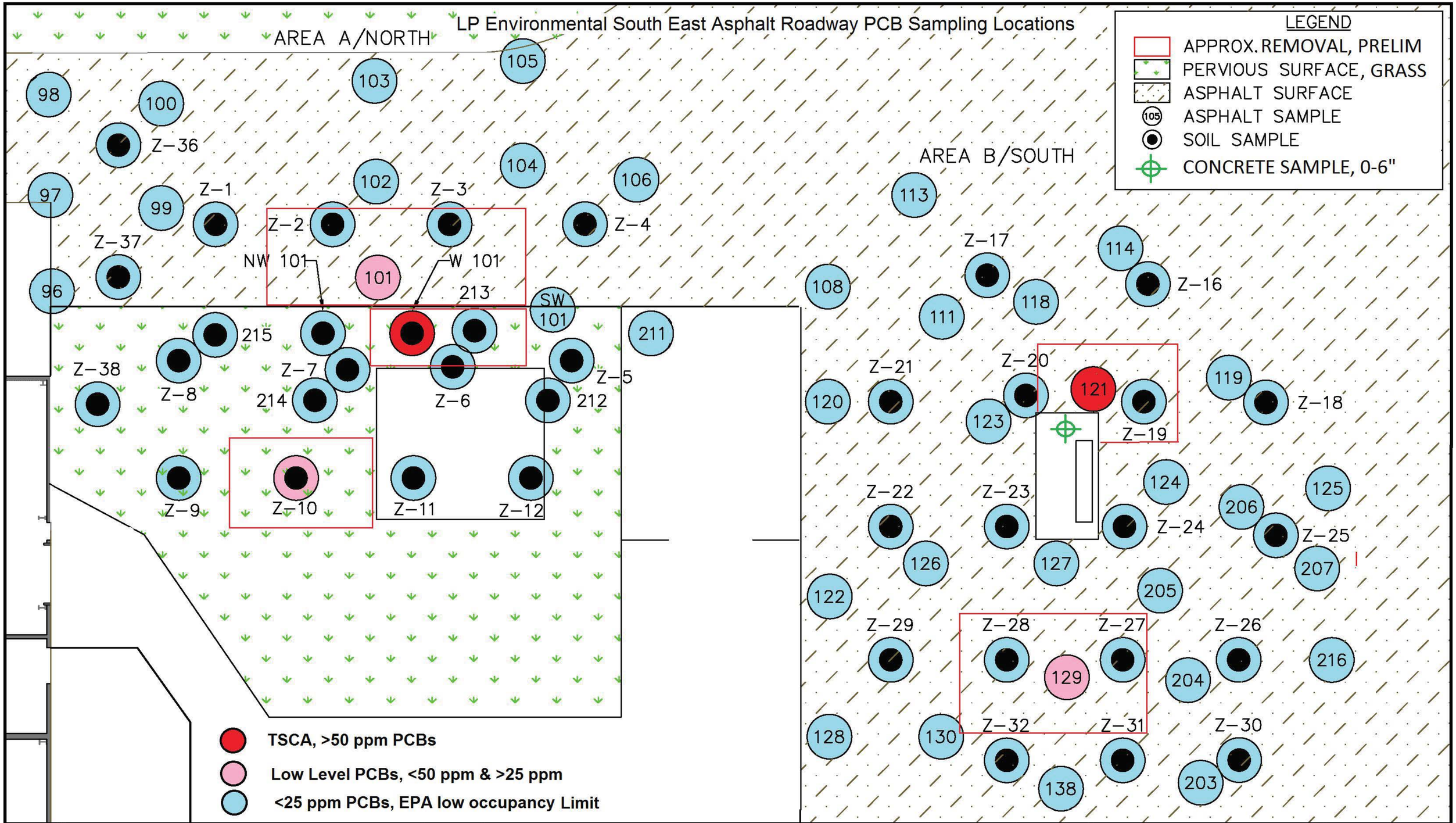
Soil Boring Location (LP Environmental)

CBS Corporation

Figure 6. Post-excavation Verification Soil Sample Results, Grid Residual PCB Levels
Former Vapotherm Tank Farm Area
Muncie, Indiana

Drawn By:	Date:	Scale:
RLR	12/16/14	1"=20'

LP Environmental South East Asphalt Roadway PCB Sampling Locations



LP ENVIRONMENTAL
4701 Trousdale Dr, Suite 123 615-457-3308
Nashville, TN 37220 www.lpeng.com

PROJECT NO: 2011-0090	REV NO:	DESCRIPTION:	DRAWN BY:	DATE:
DRAWN BY: BKM SCALE: 1"=15'	1	NORTHWEST "W-101" REPEATED SAMPLE ID WAS AMENDED TO "NW-101"	BKM	10/9/2012
DATE: 2012-08-29 REV NO: 1	2	"AREA A/NORTH" EXPANDED TO INCLUDE ADDITIONAL SAMPLES	BKM	10/19/2012

15 0 15

SAMPLING LOCATIONS
PROGRESS RAIL MANUFACTURING
3500 SOUTH COWAN ROAD
MUNCIE, INDIANA

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FIGURE 7

AA8	
Depth, ft	PCBs, ppm
0 to 0.5	1.76
0.5 to 1	0.16
1 to 2	<0.11
2 to 3	0.28
3 to 5	0.16

AA1	
Depth, ft	PCBs, ppm
0 to 0.5	0.59
0.5 to 1	3.3
1 to 2	<0.12
2 to 3	<0.12
3 to 5	<0.12

AA6	
Depth, ft	PCBs, ppm
0 to 0.5	0.59
0.5 to 1	0.4
1 to 2	23.75
2 to 3	<0.12
3 to 5	<0.11

Z-7	
Depth, ft	PCBs, ppm
0 to 5	0.17
5 to 10	0.094

AA5	
Depth, ft	PCBs, ppm
0 to 0.5	<0.11
0.5 to 1	21
1 to 2	6.69/9.81
2 to 3	Archive
3 to 5	Archive

Z-9	
Depth, ft	PCBs, ppm
0 to 0.5	0.39
0 to 5	0.019
5 to 7.5	0.019
7.5 to 10	0.018

AA7		Z-10	
Depth, ft	PCBs, ppm	Depth, ft	PCBs, ppm
0 to 0.5	47.1	0 to 0.5	0.77
0.5 to 1	2.16	0 to 5	37
1 to 2	0.14	5 to 10	0.31
2 to 3	<0.12		
3 to 5	<0.12		

LP101	
Depth, ft	PCBs, ppm
0 to 0.5	32

LP102	
Depth, ft	PCBs, ppm
0 to 0.5	0.47

Z-3	
Depth, ft	PCBs, ppm
0 to 5	0.25
5 to 10	0.24

AA3	
Depth, ft	PCBs, ppm
0 to 0.5	46.4
0.5 to 1	84.6
1 to 2	2,400
2 to 3	57
3 to 5	0.52

LPZ24	
Depth, ft	PCBs, ppm
0 to 0.5	0.47
5 TO 10	0.078

Z-1	
Depth, ft	PCBs, ppm
0 to 5	7.5
5 to 10	0.014

Z-2	
Depth, ft	PCBs, ppm
0 to 5	23
5 to 10	0.51

Asphalt typ., 3 PLS	
Depth, ft	PCBs, ppm
0 to 0.5	Archive
0.5 to 1	Archive

Asphalt typ., 2 PLS	
Depth, ft	PCBs, ppm
0 to 0.5	Analyze
0.5 to 1	Archive

NW-101	
Depth, ft	PCBs, ppm
0 to 5	0.17
5 to 10	0.094

LPSW101	
Depth, ft	PCBs, ppm
0 to 0.5	8.7

LPSW211	
Depth, ft	PCBs, ppm
0 to 0.5	5

213	
Depth, ft	PCBs, ppm
0 to 0.5	0.63

AA2	
Depth, ft	PCBs, ppm
0 to 0.5	35.3
0.5 to 1	25.66
1 to 2	1.9
2 to 3	0.36
3 to 5	<0.11

LPZ5	
Depth, ft	PCBs, ppm
0 to 0.5	0.054
5 TO 10	0.092

214	
Depth, ft	PCBs, ppm
0 to 0.5	1.9

W-101	
Depth, ft	PCBs, ppm
0 to 0.5	101

Z-6	
Depth, ft	PCBs, ppm
0 to 5	0.32
5 to 10	0.040

Borings typ., 4 PLS	
Depth, ft	PCBs, ppm
0 to 0.5	Analyze
0.5 to 1	Archive
1 to 2	Analyze
2 to 3	Archive
3 to 5	Analyze

AA10	
Depth, ft	PCBs, ppm
0 to 2	Archive
2 to 4	Archive
4 to 5	Archive
5 to 7	<0.11
7 to 9	<0.11
9 to 11	1.5
11 to 13	<0.11
13 to 15	<0.11

Borings typ., 5 PLS	
Depth, ft	PCBs, ppm
0 to 0.5	Archive
0.5 to 1	Archive
1 to 2	Archive
2 to 3	Archive
3 to 5	Archive

Z-11	
Depth, ft	PCBs, ppm
Concrete	
0 to 0.5	0.05
Soil	
0.5 to 5	1.5
5 to 10	17

AA9	
Depth, ft	PCBs, ppm
0 to 2	Archive
2 to 4	Archive
4 to 5	Archive
5 to 7	0.65
7 to 9	0.72J/13.4J
9 to 11	0.26
11 to 13	<0.12/<0.11
13 to 15	<0.11

Z-12	
Depth, ft	PCBs, ppm
0 to 5	1.2
5 to 10	1.8

AA4	
Depth, ft	PCBs, ppm
0 to 0.5	N/S
0.5 to 1	16.93
1 to 2	15.77
2 to 3	0.63
3 to 5	0.14

Asphalt

Concrete Foundation

Storage Area

Grass

idewa

10.00' 10.00' 10.00' 10.00' 10.00' 10.00' 20.00'

Graphic Scale
0 5 10
(in Feet)

30700.06 – CBS – Muncie (RWP) – Figure 8 – Asphalt Area Proposed Sample Locations.dwg Sheet (Asphalt Area – Historical)

PSARA TECHNOLOGIES, INC.

Soil Boring Location (>25 ppm)
(EPA Low Occupancy Limit = 25ppm)

Soil Boring Location (<25 ppm)

Proposed Soil Boring Location

Proposed Soil Boring Location
(All Samples Archived)

LEGEND

Proposed Asphalt Sample Location

Proposed Asphalt Sample Location
(All Samples Archived)

Note:
N/S = No Sample

CBS Corporation

Figure 8.
Asphalt Area
Proposed Sample Locations and Environmental Sample Results
Muncie, Indiana

Drawn By:	Date:	Scale:
RLR	1/22/15	1"=10'

Source: LP Environmental "Site Diagram, Sewer Separation Sampling" 10–02–2014

AREA-20

AREA-12

MN13 MS13

MN11 MS11

MN10 MS10

Building Wall

10" Sanitary Sewer

18" Storm Sewer

Dig Out the Old 10" Sewer Pipe all the way to MH2

Trench 5'W/12'D typ.

MH5 MH6 MH7 MH2 MH1

L1-28 L1-27 L1-26 L1-25 L1-24 L1-23

15.0' 15.0' 5.0'

2 Borings, 10' Offset	
Depth, ft	PCBs, ppm
0 to 6	Archive
6 to 7	Archive
7 to 8	Archive
8 to 9	Archive
9 to 10	Archive
10 to 11	Archive
11 to 12	Archive

6 Borings	
Depth, ft	PCBs, ppm
0 to 6	Analyze
6 to 7	Archive
7 to 8	Analyze
8 to 9	Archive
9 to 10	Analyze
10 to 11	Archive
11 to 12	Analyze

10' Offset Sanitary Sewer Typ.

5' Offset Sanitary Sewer Typ.

10' Offset Sanitary Sewer Typ.

Repeat Boring

15" Combined Sewer L2–18

20' Offset Typ. 2 places

10' Offset Typ. 6 places

MH8 MH9 MH4

Strip Asphalt and Bedding 5'W/60'L~1'DP

60.0'

10.0' Typ.

10.0'

2 Borings	
Depth, ft	PCBs, ppm
Asphalt	
0 to 0.5	Analyze
Bedding	
0.5 to 1	Analyze
Soil	
1 to 5	Analyze

6 Borings	
Depth, ft	PCBs, ppm
0 to 0.5	Archive
0.5 to 1	Archive
1 to 5	Archive

Clean Trench 5'Wx12'Deep

TREE

Original Vapotherm Tankfarm

COMBINED SEWER LINE

MH3 MH

PARK

30700.06 – CBS – Muncie (RWP) – Figure 9 – Proposed Soil Boring Locations.dwg 02/13/15 – 10:21am TAB: LAYOUT1 (2)

PSARA TECHNOLOGIES, INC.

LEGEND

Proposed Soil Boring Location

Proposed Soil Boring Location (All Samples Archived)

Trench, 6ft–12ft TSCA

Trench, 6ft–12ft TSCA

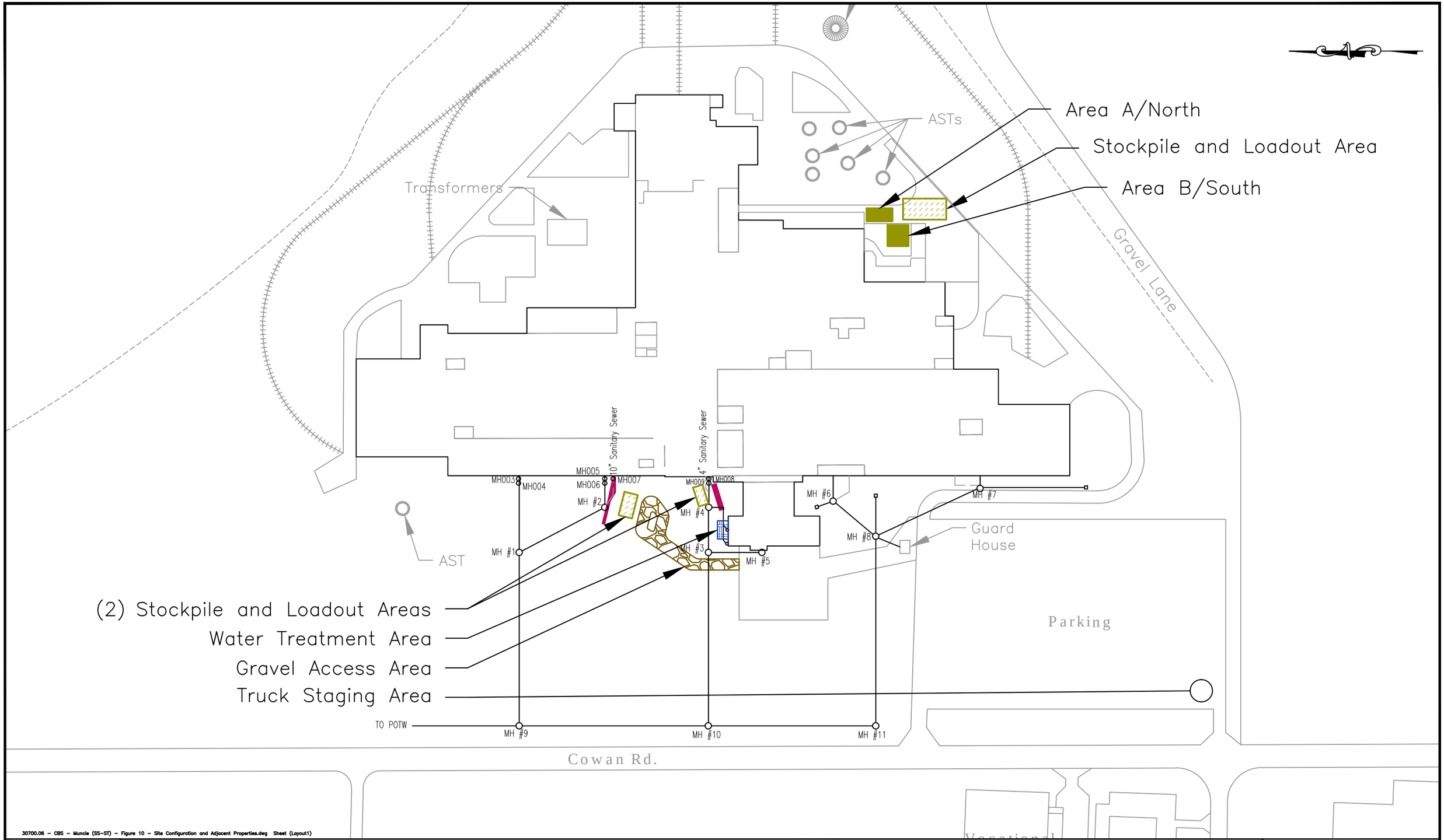
Note: All borings are in reference to new and existing sewerlines, manholes, and previous LP Environmental borings.

Graphic Scale 0 20 40 (In Feet)

CBS Corporation

Figure 9.
Proposed Soil Boring Locations
Former Vapotherm Tank Farm Area
Muncie, Indiana

Drawn By:	Date:	Scale:
RLR	2/4/15	1"=40'



30700.06 – CBS – Muncie (SS-ST) – Figure 10 – Site Configuration and Adjacent Properties.dwg Sheet (Layout1)

PSARA TECHNOLOGIES, INC.

LEGEND

- Gravel Access Road
- Stock Pile Area
- Water Treatment Area
- Trench

Graphic Scale
0 100 200
(In Feet)

CBS Corporation

Figure 10.
Typical Remediation
Site Setup
Former ABB Facility, Muncie, Indiana

Drawn By:	Date:	Scale:
RLR	2/3/15	1"=200'

N

PZ-13

PZ-14

PZ-15

LINE REPORTED TERMINATED BY ABB

CABLE TRENCH AREA

MW-11

CAPACITOR BANK AREA

J-10/VERTICAL WINDING TRENCH EXCAVATION AREA

LINE REPORTED TERMINATED BY ABB

MW-10

FLOOR MOP WATER DISCHARGE POINT

MW-9

MH 015

VAPOTHERM OIL/WATER SEPARATOR DISCHARGE POINT

MW-1

MW-6

MW-2

MW-7

MW-4

MW-3

MW-8

MW-5

154 gph (154) gph

2 gph (80) gph

MH #2

NF (<10) gph

MH #4

11 gph (61) gph

400 gph (655) gph

PZ-16

154 gph (253) gph

MH #3

MH #5

44 gph (10:) gph

460 gph (718) gph

MH #1

NF (NF)

OLD VAPOTHERM TANK FARM AREA

OLD VAPOTHERM AREA

MH #6

NF (NF)

2 gph (460) gph

MH #8

5 gph (102) gph

NF (NF)

TO SECURITY GUARD BUILDING

MH #7

TO POTW

599 gph (905) gph

MH #9

253 gph (599) gph

MH #10

11 gph (599) gph

MH #11

NORTH LINE

CENTRAL LINE

SOUTH LINE

EXPLANATION

- ——— = STORM SEWER
- - - - - = SANITARY SEWER
- — — — = SCRAP OIL LINE
- ▬ = INFILTRATION LOCATION (JULY 1993)
- ▼ = WEIR INSTALLATION LOCATION
- ⊘ MW-1 = MONITORING WELL LOCATION
- MH #6 = MANHOLE
- FCO-3 = FLOOR CLEANOUT
- ED = EQUIPMENT DRAIN
- FD = FLOOR DRAIN
- FAI = FRESH AIR INLET
- LDR = LEADER
- NF = NO FLOW
- 11 = ROUTINE FLOW WEIR MEASUREMENT (gph)
- (61) = STORM FLOW WEIR MEASUREMENT (gph)
- NEW MANHOLE
- LINED SEGMENT
- LATERAL OR ROOF LEADER REMOVED FROM SERVICE
- SEALED EXISTING MANHOLE

NOTES:
1. SOURCE AND DATE OF STORM/SANITARY SEWER AND SCRAP OIL LINE NETWORK NOT AVAILABLE.
2. ORIGIN OF 2-INCH INFLUENT LINE (MH #4) AND 4-INCH INFLUENT LINE (MH #3) NOT AVAILABLE.

0 37.5 75 112.5 150 feet

TITLE: COMBINED SEWER LINE LOCATION MAP WITH FLOW RATE MEASUREMENTS

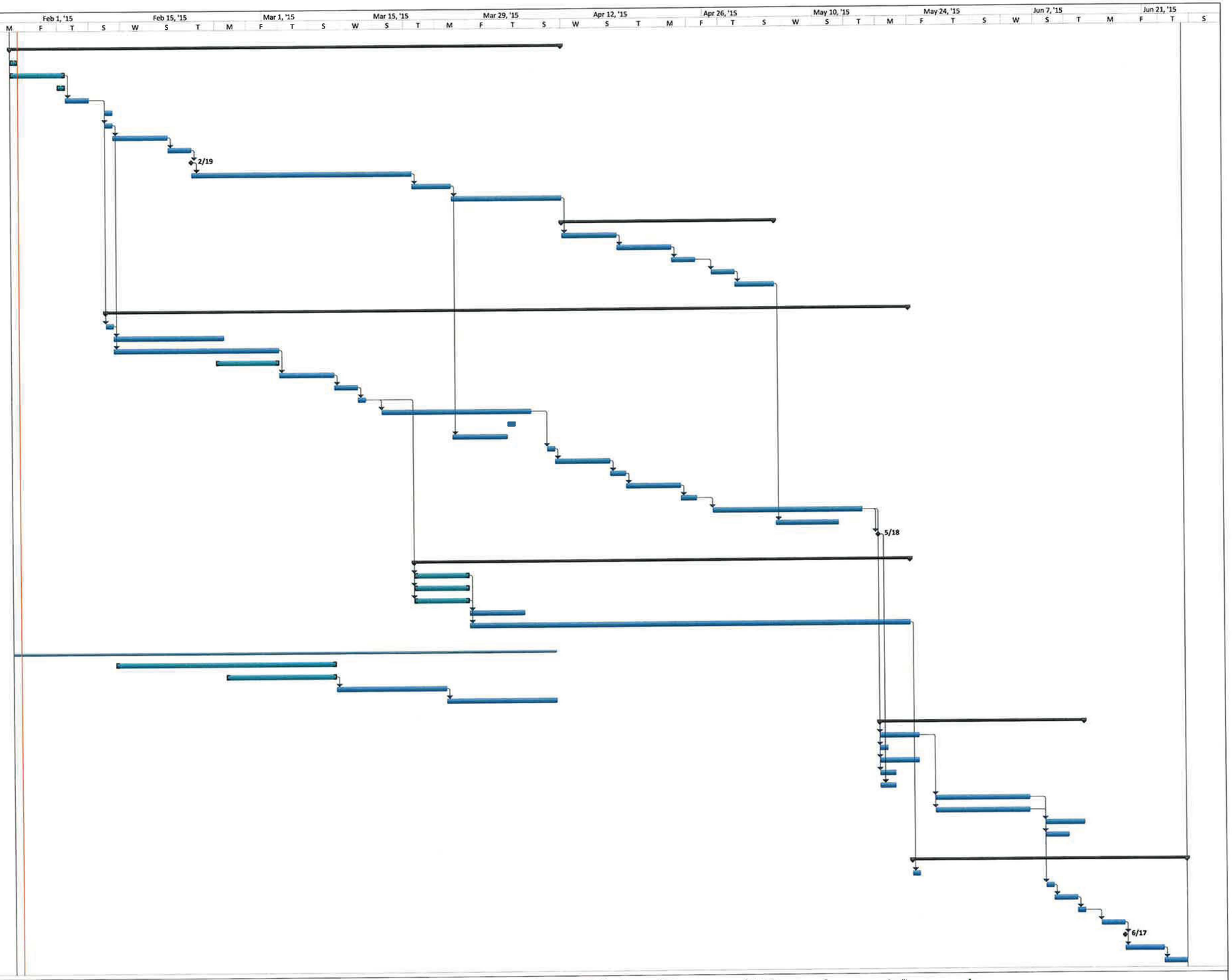
PROJECT: WESTINGHOUSE ELECTRIC CORP. MUNCIE, INDIANA

DAMES & MOORE INC.
PITTSBURGH, PENNSYLVANIA

SCALE: AS NOTED	DRAWN BY: IJR	JOB NO.: 03346--074
DATE: OCT 1994	APPR. BY:	PLATE NO.: 1

Figure 11

ID	Task Name	Duration	Start	Finish
1				
2	**Work Plan / SAP Approval**	**50 days**	**Wed 1/28/15**	**Tue 4/7/15**
3	Respond to comments on Conceptual Plan	1 day	Wed 1/28/15	Wed 1/28/15
4	Receive additional comments from EPA	5 days	Wed 1/28/15	Tue 2/3/15
5	Submit the 2011 VRP work plan to EPA	1 day	Tue 2/3/15	Tue 2/3/15
6	Expand groundwater sections	3 days	Wed 2/4/15	Fri 2/6/15
7	Incorporate HASP & QAPP from PSARA	1 day	Mon 2/9/15	Mon 2/9/15
8	Distribute Draft WP / SAP	1 day	Mon 2/9/15	Mon 2/9/15
9	Internal Review	5 days	Tue 2/10/15	Mon 2/16/15
10	Revise WP/SAP	3 days	Tue 2/17/15	Thu 2/19/15
11	Submit to EPA / IDEM	0 days	Thu 2/19/15	Thu 2/19/15
12	Receive EPA / IDEM comments	20 days	Fri 2/20/15	Thu 3/19/15
13	Revise per EPA / IDEM comments and resubmit	3 days	Fri 3/20/15	Tue 3/24/15
14	EPA / IDEM Approval	10 days	Wed 3/25/15	Tue 4/7/15
15				
16	**Delineation Sampling**	**19 days**	**Wed 4/8/15**	**Mon 5/4/15**
17	First Sampling Round	5 days	Wed 4/8/15	Tue 4/14/15
18	Receive & review 1st round results	5 days	Wed 4/15/15	Tue 4/21/15
19	Second Sampling round	3 days	Wed 4/22/15	Fri 4/24/15
20	Receive & review 2nd round results	3 days	Mon 4/27/15	Wed 4/29/15
21	**Prepare final delineation drawings**	**3 days**	**Thu 4/30/15**	**Mon 5/4/15**
22				
23	**RFP & Contractor Selection**	**74 days?**	**Mon 2/9/15**	**Thu 5/21/15**
24	prepare bidders list	1 day	Mon 2/9/15	Mon 2/9/15
25	qualify bidders	10 days	Tue 2/10/15	Mon 2/23/15
26	Prepare Draft RFP	15 days	Tue 2/10/15	Mon 3/2/15
27	prepare figures	6 days	Mon 2/23/15	Mon 3/2/15
28	Internal Review	5 days	Tue 3/3/15	Mon 3/9/15
29	Revise RFP per comments	3 days	Tue 3/10/15	Thu 3/12/15
30	Send out RFP to Bidders	1 day	Fri 3/13/15	Fri 3/13/15
31	Bidders prepare proposals	15 days	Mon 3/16/15	Fri 4/3/15
32	Site Walk	1 day	Wed 4/1/15	Wed 4/1/15
33	Addendum Incorporating EPA Comments	5 days	Wed 3/25/15	Tue 3/31/15
34	Bidders submit Proposals	1 day	Mon 4/6/15	Mon 4/6/15
35	Review Proposals	5 days	Tue 4/7/15	Mon 4/13/15
36	Request BAFOs	2 days	Tue 4/14/15	Wed 4/15/15
37	Receive BAFOs	5 days	Thu 4/16/15	Wed 4/22/15
38	Contractors Selected	2 days	Thu 4/23/15	Fri 4/24/15
39	Contract Execution	15 days	Mon 4/27/15	Fri 5/15/15
40	Incorporate Sample Results into Work Plan	6 days	Tue 5/5/15	Tue 5/12/15
41	Contractors Mobilize	0 days	Mon 5/18/15	Mon 5/18/15
42				
43	**Design new sewer line**	**45 days?**	**Fri 3/20/15**	**Thu 5/21/15**
44	Select type of pipe & gaskets	5 days	Fri 3/20/15	Thu 3/26/15
45	Interface with Progress Rail installations	5 days	Fri 3/20/15	Thu 3/26/15
46	verify pipe bedding and backfill materials	5 days	Fri 3/20/15	Thu 3/26/15
47	Specify Pressure tests	5 days	Fri 3/27/15	Thu 4/2/15
48	Order Pipe and gaskets required	40 days	Fri 3/27/15	Thu 5/21/15
49				
50	**Subcontractor selection**			
51	Apply for waste water disposal permit	20 days	Tue 2/10/15	Mon 3/9/15
52	Contract with TSCA Landfill	10 days	Tue 2/24/15	Mon 3/9/15
53	Contract with Special Waste Landfill	10 days	Tue 3/10/15	Mon 3/23/15
54	Contract with Lab	10 days	Tue 3/24/15	Mon 4/6/15
55				
56	**Remediation**	**20 days**	**Mon 5/18/15**	**Fri 6/12/15**
57	Remediation Contractors Mobilize	5 days	Mon 5/18/15	Fri 5/22/15
58	Clear and grub	1 day	Mon 5/18/15	Mon 5/18/15
59	build access roads	5 days	Mon 5/18/15	Fri 5/22/15
60	prepare stockpile / loadout areas	2 days	Mon 5/18/15	Tue 5/19/15
61	layout grids for excavation	2 days	Mon 5/18/15	Tue 5/19/15
62	asphalt roadway removal & confirmation sampling	10 days	Mon 5/25/15	Fri 6/5/15
63	old sewer line removal & confirmation sampling	10 days	Mon 5/25/15	Fri 6/5/15
64	Remove asphalt over Line 2	5 days	Mon 6/8/15	Fri 6/12/15
65	Backfill asphalt roadway	3 days	Mon 6/8/15	Wed 6/10/15
66				
67	**sewer line installation**	**25 days**	**Fri 5/22/15**	**Thu 6/25/15**
68	Receive sewer pipe, gaskets and fittings	1 day	Fri 5/22/15	Fri 5/22/15
69	plumbing subcontractor mobilizes	1 day	Mon 6/8/15	Mon 6/8/15
70	Install pipe bedding in trench	3 days	Tue 6/9/15	Thu 6/11/15
71	Pressure test new sewer line	1 day	Fri 6/12/15	Fri 6/12/15
72	Backfill & compact pipe trench	3 days	Mon 6/15/15	Wed 6/17/15
73	Progress Rail accepts new sewer line	0 days	Wed 6/17/15	Wed 6/17/15
74	restore excavation areas	3 days	Thu 6/18/15	Mon 6/22/15
75	demob	3 days	Tue 6/23/15	Thu 6/25/15



Project: Muncie Sewer & Roadwa
Date: Thu 1/29/15

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Deadline | Progress

Figure 12

Appendix A

Sampling and Analysis Plan

Appendix A.

Sampling and Analysis Plan

Page No.

Appendix A.

Sampling and Analysis Plan

A.1.0 Introduction

The purpose of this Sampling and Analysis Plan (SAP) is to provide procedures for the sampling work required during the delineation and remediation at the Muncie site.

This plan is supported by and intended to be used in conjunction with the Quality Assurance Project Plan (QAPP) (Appendix C).

A.2.0 Data Quality Objectives

This section shows how the Data Quality Objective (DQO) process was applied for this Plan. The DQO process focuses studies by clarifying vague objectives and limiting the number of decisions that must be made (Reference 10). The process enables data users and technical experts to specify data requirements prior to collection events. It provides a convenient way to document activities and decisions, to communicate the data collection design to others, and to give the data user confidence that the data collected support the decisions concerning remediation and redevelopment of the site. Finally, the DQO process is designed to save resources by streamlining the study process and making data collection operations more resource-effective.

A.2.1 Stating the Problem

Elevated levels of PCBs were discovered along the western sewer lines and in the southeast asphalt roadway area of the Muncie plant by LP Environmental.

CBS has agreed to continue delineating the extent of contamination and to perform the ultimate remediation of the asphalt roadway.

CBS has also agreed to further delineate along the western sewer lines and pipe bedding so that the existing sanitary sewer line and pipe bedding where LP discovered PCB LNAPL can be removed and a new separate sanitary sewer line installed to Progress Rail specifications.

CBS has also agreed to delineate the asphalt around sample L2-18Z overtop the Middle sewer line L2 and to remove the contaminated asphalt so that Progress Rail can excavate the existing sewer line.

A.2.2 Identifying the Decision

Identify the lateral and vertical extent of PCB contaminated soils and asphalt exceeding the cleanup criteria that must be removed to remediate the southeast asphalt roadway area.

Identify the lateral and vertical extent of PCB contaminated soils and asphalt around the western sewer lines that are to be installed. Due to the city imposed deadline to separate sanitary and storm sewer lines, the extent of contamination in soils and pipe bedding material may initially only be determined to the extent that is required to allow the installation of the separate sewer line. After meeting the deadline for having the separate sanitary and storm sewers online, the delineation and remediation may proceed to the cleanup levels.

A2.3 Identifying Inputs to the Decision

The data needed to support the decision is the PCB content of soils and asphalt in these areas.

A.2.4 Defining the Boundaries of the Study

The study areas can be bounded by the previous sample results and the known size of the excavation to replace the sanitary sewer line. PCB contamination has been found in two distinct areas around the Muncie plant based on the previous Site Investigations discussed above. This information can be used to formulate a conceptual site model that will define the boundaries of the study.

A.2.4.1Conceptual Site Model

A site conceptual model is a description of the site that integrates what is known about the contaminated areas, contaminated media, types of contamination and potential exposure pathways/receptors at the site.

A.2.4.1.1 Sewer Line Conceptual Site Model

Two 4” lateral lines ran north-south through the former Vapotherm area inside the plant where a PCB LNAPL plume is known to exist. This pipe crosses the 10” sanitary sewer line and connects to the 18” storm sewer line running parallel and just north of the sanitary line as shown on Figure 4. In the mid-90s these sewer pipes were found to be susceptible to PCB infiltration. The 10” pipe was lined to prevent PCB infiltration. The 4” pipes were filled with grout to take them out of service since they were too small to line.

Even though these lines were grouted on the inside, the gravel and sand bedding on the outside of the lines can still act as a pathway for PCB-laden LNAPL from the Vapotherm area to seep out to the 10” sanitary sewer line sampled by LP. CBS believes the most likely source of the LNAPL found by LP along the 10” sanitary sewer line is historical leakage from the old vapotherm process area that collected and seeped along the bedding for the existing sewer lines, as discussed above.

The source of the PCB contamination in the asphalt around L2-18Z is assumed to be an historical surface spill.

A.2.4.1.1 Asphalt Roadway Conceptual Site Model

The source of the PCB contamination in the asphalt roadway area is assumed to be surface spills around the building that previously sat on the concrete foundation shown on Figure 8.

Therefore the results of previous data show that PCBs are the main Contaminant of Concern and the remedy driver in these areas. The lateral and vertical extent of contamination will be determined around both of these two known areas of elevated PCB contamination by delineation sampling of specific grids.

A.2.5 Developing a Decision Rule

The decision rules for these areas are:

- If an individual PCB sample result is greater than 25 ppm in soils or asphalt then the soil/asphalt represented by that sample will be designated for removal and a clean perimeter laterally and to depth will be determined out from the contaminated result.

A.2.6 Specifying Limits on Decision Errors

Delineation sampling will be performed around previously known areas that contain soils that exceed the cleanup criteria to determine a clean perimeter that complies with the not to exceed limits for asphalt and soil.

All delineation and verification sample results for soils and asphalt that will remain on site will be compared with the not to exceed values.

All sample results will be reported on a dry weight basis for comparison to the not to exceed limits.

Due to the city imposed deadline to separate sanitary and storm sewer lines, the extent of contamination in soils and pipe bedding material will only be determined to the extent that is required to allow the installation of the separate sewer line initially. Final delineation and remediation of the sanitary sewer lines may occur after the new sanitary lines are installed and put into service.

A.2.7 Optimizing the Design

The above DQO steps have been applied to this sampling effort to provide parameters that will achieve project goals. This process has yielded a plan for each sampling media:

- asphalt
- soils
- pipe bedding (gravel, etc.)

This will be followed in each of the two areas of interest:

- The Western sewer line area
- The Southeast asphalt roadway

This process has yielded:

- A lateral area of concern for sampling in each of the two areas of interest
- Approximate depths of interest in each area

The minimum number of samples for each media in each area will be driven by the delineation and confirmation data required to define a clean perimeter both laterally and to depth. The sampling design for each area and each media will be optimized taking these parameters as guidance along with the physical characteristics of each area.

A.3.0 Sampling Procedures

Both pre-remediation delineation sampling and post- excavation verification sampling procedures are covered in this section.

As indicated above, LP Environment and CBS previously sampled for PCBs along the western sewer lines which are to be separated and also in the Southeast roadway. New sample locations specified on Figures 8 and 9, as discussed in Section 4.1.2 are proposed by CBS to further delineate the extent of the contamination previously discovered.

This section also describes the field procedures that will be used to collect post excavation verification samples during the remediation.

Delineation and verification samples will be obtained according to the CBS Field Procedure FP-16, Soil Sampling (Appendix G). It is anticipated that a Geoprobe direct push soil probe will be used to obtain the delineation samples. Verification sampling will be performed according to FP-16 using hand tools.

These procedures may be modified to meet the stated objectives of this project.

The decontamination procedure is described in Section A.5.0 and waste handling procedures are described in Section A.6.0 of this SAP.

A.3.1 Pre-Excavation Grid Delineation Sampling

A.3.1.1 Direct Push Sampling Procedures

The direct-push method of sampling generally uses a dual-walled (double-cased) system, although single rod systems are also available. Soil samples will be collected continuously by:

1. hydraulically pushing a 2-in. diameter, Geoprobe^{TM} sampling tube and acetate liner assembly or similar device to the desired depth.
2. After the outer casing and sampler are advanced to the desired depth interval, the sampler will be retracted through the center of the outer steel casing while the casing remains in the bore hole.
3. The acetate liner is then extracted and cut open longitudinally

4. The recovered soil core is measured and subdivided into the desired sample increments.

As each sample is removed from the liner by the field technician, the technician will visually inspect the sample to provide qualitative descriptions of color, texture, odor, the presence of oil or LNAPL, presence of plants or animals, presence of sediments, clay or debris and any other relevant field observations, and will note them in the field logbook. The depth of soil in each sleeve will be noted.

Larger pieces of stone and any debris such as vegetation and roots will be removed from the sample and discarded. The remaining sample will be homogenized. A 4 ounce pre-cleaned bottle will be filled with the sample. The bottle is labeled in accordance with field procedure requirements listed in Section A.7.3. All samples will be immediately placed into a cooler on ice and prepared for shipment to the laboratory. The samples will be submitted for EPA Method 8082 PCB analysis as described in Section A.8.0 of this SAP.

After the collection of each core sample, all non-disposable sampling equipment that has come into contact with the soil samples (scoops, spatulas, mixing pans, etc.) will be thoroughly cleaned to avoid cross contamination.

A.3.2 Verification Sampling

A.3.2.1 Grid Bottom Verification Sampling

Grids designated for confirmation sampling will be split into subgrids containing approximately 100 square feet, each. Therefore, a typical 20 foot x 20 foot grid will require four subgrid grabs. One 0 to 6 inch grab will be taken in the approximate center of each subgrid, composited and homogenized.

The results of the composite sample will be compared to the not-to-exceed value of 25 ppm. If the verification sample analytical result exceeds the corresponding not-to-exceed value, then an additional 6 inches of soil will be removed followed by additional verification sampling.

A.3.2.2 Grid Sidewall Verification Sampling

Grid sidewalls are typically 20 feet long. To sample the sidewall where TSCA was removed, four, 0 to 6 inch surface grab samples will be taken which are spaced approximately 5 feet apart along the sidewall where the TSCA layer was removed. The grabs are composited and submitted for PCB analysis.

If this composite sample result is greater than the not-to-exceed value of 25 ppm, the sidewall will be excavated approximately 1 foot further back over the 20 foot length and re-verified. This will be repeated if necessary.

A.3.2.3 Verification Sampling Procedure

Grid and sidewall verification sample collection will be performed using hand tools according to CBS Field Procedure FP-16, Soil Sampling. A hand auger or soil probe is used to obtain the

individual sub-samples to be composited. A grab sample is taken to a 6 inch depth near the center of each subgrid.

Non-disposal samplers will be de-contaminated per Section A.5.0 after collecting all subgrid samples that go into each individual composite. A disposable sampler can be used to obtain all 4 subgrid samples that make up an individual composite before discarding. A new disposable sampler will be used after all subgrid samples that go into an individual composite are collected, to minimize the possibility of cross contamination.

A hand auger may be fitted with an internal plastic sleeve. The sleeve contains the sample. Split spoon sampling per CBS FP-16 may also be used.

All four subsamples are placed into a stainless steel mixing pan for compositing. Larger pieces of stone and any debris such as vegetation and roots are removed from the sample and discarded. The remaining sample is homogenized and placed into a 4 ounce pre-cleaned bottle that is labeled in accordance with Section A.7.3 requirements, and prepared for shipment to the laboratory. After the collection of each core sample, all sampling equipment that has come into contact with the soil samples (scoops, spatulas, mixing pans, etc.) are thoroughly cleaned to avoid cross contamination.

If disposable 2 or 3 inch OD polycarbonate (Lexan®) core tube are used to collect the subsamples, the tube length will be at least 12 inches greater than the probing depth of 6". (approximately 1.5 to 2 feet long). The core tube will be advanced manually through the soil to the desired depth or until refusal has been met. To avoid decontaminating a mixing pan, the subsamples can be extruded out of the tube into a clean Ziploc bag for mixing.

After all four subsamples are collected in the Ziploc bag, larger pieces of stone and any debris such as vegetation and roots will be removed from the sample and discarded.

The four subsamples will be homogenized inside the Ziploc bag. A four ounce pre-cleaned bottle will be filled with the homogenized sample. The bottle will be labeled in accordance with Section 7.3, sealed, placed in a cooler on ice and prepared for shipment to the laboratory. The samples will be submitted for EPA Method 8082 PCB analysis and solids content (for a dry weight basis) as described in Section A.8.0 of this plan.

A.3.3 Stockpile Sampling

The excavation of the old sewer line will result in more than 200 cubic yards of overburden that will be sampled to determine if it can be used as immediate backfill. This material will be stockpiled and sampled according to this stockpile sampling procedure to verify it meets the cleanup criteria before reusing it as backfill.

The nominal stockpile size for sampling will be up to 60 cubic yards. Ten grab samples will be randomly collected from each stockpile at various depths and thoroughly homogenized. A composite sample will be obtained from the mixture for analysis of PCBs. This composite will be compared with the cleanup criteria for final disposition.

If the stockpile PCB level of < 25 ppm is not exceeded, the stockpile will be considered suitable for use as backfill in the sewer line excavation. If the composite sample result is greater than 25 ppm it will be disposed of offsite. If the PCB content is less than 50 ppm it will be sent as Special Waste, if greater than 50 ppm the stockpile will be sent off as TSCA.

Asphalt and soil below the EPA low-occupancy limit of 25 ppm may also be placed into the beneficial reuse piles being maintained by Progress Rail.

Stockpile sampling will be performed according to the procedures in CBS Field Procedure FP-026 Rev. 2, Backfill and Stockpile Sampling in Appendix H.

A.3.4 Backfill Sampling

Purchased clean clays and topsoil will be brought on site and used as backfill. This material will be confirmed clean by sampling the first truck load (or the off-site source) by composite sampling. One grab sample per each 6 cubic yards in the first truckload will be composited.

Backfill soil sampling will be performed according to the procedures in CBS Field Procedure FP-026 Rev. 2, Backfill and Stockpile Sampling in Appendix H.

A.4.0 Quality Assurance / Quality Control

Quality Assurance/Quality Control (QA/QC) will be assessed for all aspects of the project, including field, laboratory, and data management activities. This section of the SAP provides a general description of the QA/QC program.

A.4.1 Field QA/QC Assessment

Sampling activities will be conducted in accordance with the project QAPP. Sampling activities will be conducted in accordance with Field procedures FP-16 and FP-26 which have both been previously approved by IDEM and the USEPA, Region 5 for the Bloomington Project.

QA/QC for field procedures also will be addressed through implementation of a thorough inspection and oversight process. This process will include routine observation and critique of the sample collection process by the Field Sampling Manager. These inspections will include reviewing core collection techniques, ensuring daily preparation and transcription of field notes, and reviewing the ability of the selected equipment to obtain adequate samples. Additionally, the field processing procedures will be reviewed to assure that the protocols are appropriate. Activities reviewed will include field sampling and field data logging, core segmenting and

sample homogenization procedures, container labeling, and sample packaging for shipment to the laboratory. The Field QA/QC Manager will be informed of any deficiencies in the data, and will investigate potential sources of these deficiencies within the field processes.

A.4.2 Quality Control Samples

Additional Quality Control (QC) sampling and laboratory analyses will be performed to provide data to allow the assessment of the quality of field and laboratory procedures. These additional samples (QA/QC samples) will include:

- blind duplicate samples
- matrix spike/matrix spike duplicate (MS/MSD) samples
- equipment rinseate blank samples

Blind Duplicate Samples: Duplicate samples will be collected periodically to check the laboratory analyses for consistency. Duplicates will be collected during sampling events at a frequency of one duplicate per twenty samples collected, a rate of 5%. Duplicate samples will be obtained by equally dividing a sufficient amount of the homogenized sample to perform the required analyses. Duplicate samples will be transferred to the laboratories in pre-cleaned glass jars and submitted for analysis.

MS/MSD samples: MS/MSD samples provide information about the effect of the sample matrix on the sample preparation and measurement methodology. These samples document the bias and precision of a method. The precision of the method is a variance of the analytical techniques. MS/MSD samples are considered laboratory QC samples.

Volume for one MS/MSD sample will be collected for every batch of up to twenty samples (a rate of 5%) or fewer per matrix sampled. The sample that will be used to prepare the MS/MSD samples will be indicated on the chain of custody. The laboratory will prepare the MS/MSD samples from the original volume of sample collected. At least two additional four ounce jars of sediment or soil will be collected for each sample indicated for MS/MSD sample preparation.

Rinseate Blanks: Rinseate blanks will be collected to ensure that all sampling equipment is being properly decontaminated between sampling events. If dedicated sampling equipment (i.e., new core tubes for each location, disposable aluminum pans, spoons, and taping knives for sample processing) is used for each sediment/soil core sample collected, no field equipment blank samples would be required. However, use of non-disposal sampling equipment will require decontamination between target areas. Therefore, equipment rinseate blank samples will be collected at a rate of one per day of significant sampling or one per 10 environmental samples collected with non-disposable, decontaminated sampling equipment, whichever is less.

Rinseate samples will be collected by pouring distilled, deionized, or “analyte-free” water over the decontaminated sampling equipment and collecting it in a one liter amber glass sample container. Sampling personnel will not be told which equipment to sample until after decontamination procedures have been completed at the end of the day.

CBS will allow the government parties to take split and/or duplicate samples of any samples collected by CBS or its contractors or agents.

A.5.0 Personnel and Equipment Decontamination

This section provides the general guidelines for the decontamination of personnel and sampling equipment. A portable decontamination area will be established at the site to contain liquid and solid waste generated during the decontamination of equipment and personnel between sampling locations. All waste generated from decontamination will be containerized and disposed of properly.

Soil sampling equipment (e.g., scoops, trowels, and mixing bowls) will be cleaned prior to collecting each sample to prevent cross contamination. All non-disposable sampling equipment will be decontaminated using the following five-step:

1. Scrub and wash with laboratory-grade detergent.
2. Rinse with tap water.
3. Rinse with deionized water.
4. Rinse with isopropanol (wash bottle).
5. Rinse with deionized water.

To minimize the potential for cross-contamination, site personnel will use personal protective equipment (PPE) such as Tyveks, booties and latex gloves. The following decontamination procedures will be performed by site personnel after completion of tasks whenever the potential for contamination exists. When leaving the contaminated area:

1. Disposable latex booties are to be worn over boots in the sampling area. Remove and discard when leaving area.
2. Remove disposable coveralls (e.g., Tyveks) and discard.

3. Remove latex gloves and discard. If sediment samples are being taken directly with the sampling personnel's gloved hand, gloves will be changed between each composite sample.

4. At the end of the work day, shower entire body, including hair, either at the work site or at home.

A.6.0 Investigation-Derived Wastes

It is anticipated that the investigation-derived waste (IDW) that may be generated during the field investigation may include the following items:

- Personal protective equipment (PPE) – including disposable coveralls, gloves, booties, and other PPE.

- Disposable equipment – which may include plastic sheeting and equipment covers, aluminum foil, broken or unused sample containers, sample container boxes, tape, and other related items.

- Decontamination fluids - any spent solvents and wash water.

- Packing and shipping materials

- Unused sediment or soil sample material

Solid nonhazardous IDW, which includes PPE, disposable equipment, and packing and shipping materials, will be disposed of as solid waste in a dumpster or similar container.

Rinse water from decontamination of sampling equipment, which does not contain any organic solvents that were used for decontamination, will be containerized. Spent organic solvents used for decontamination will be containerized separately from the aqueous decontamination fluid wastes. In accordance with USEPA regulations, containers will be labeled and disposed of by CBS at an appropriate treatment and disposal facility within 90 days of generation.

Any unused sediment or soil material, such as that adhering to the sampling equipment and material collected but not used for analysis will be returned to the same area where it was collected.

A.7.0 Sample Management

Field personnel are responsible for the identification, preservation, packaging, handling, shipping, and storage of samples obtained in the field such that all samples can be readily identified and will retain, to the extent possible, *in situ* characteristics to be determined through analysis. All samples collected will be tracked by preparing and using a sample chain-of-custody form.

A.7.1 Sample Identification System

Each sample, including duplicates and blank QC samples, will be identified with a unique sample number as shown on the sampling drawings. This number will provide easy identification of the sample in field logs, field data sheets, analytical reports, chain-of-custody forms, and project reports.

Sample numbers will indicate the type of sample and the sample location. Duplicate samples will be distinguished by placing a “D” at the end of the parent sample number.

A.7.2 Sample Containers, Preservatives, and Holding Times

Upon collection, samples will be transferred directly into the appropriate sample container. Only pre-cleaned sampling containers supplied by the laboratory will be used. All samples will be cooled to 4°C immediately upon collection and maintained at this temperature during sample shipment. Table D summarizes the types of samples to be collected, container types and sizes, preservatives, and sample holding times.

A.7.3 Sample Labeling

Samples will be labeled at the time of sample collection by affixing a self-stick label to the sample container. All sample labels will include the following information:

- Project name
- Unique sample identification number
- Date and time the sample was collected
- Initials of the sample collector

A.7.4 Sample Shipping

All samples collected during this study will be properly labeled and packaged for courier pickup or shipment by overnight courier to the offsite laboratory. Glass containers will be secured in sturdy coolers to prevent breakage during transport. Ice in leak-proof bags will be placed in the coolers to preserve the samples at 4°C. Coolers will be secured with tape and labeled to ensure the samples are not disturbed during transportation. A chain-of-custody seal(s) will be attached so that any attempts at opening or tampering will result in a broken seal.

A.7.5 Sample Custody

The sample chain of custody tracks the life of a sample from collection to analysis. A record of the sample custody will be maintained to establish and document sample possession during collection, shipment, laboratory receipt, and laboratory analysis. This documentation will be evidenced on a chain-of-custody record by the signatures of the individuals collecting, shipping, and receiving each sample.

A.7.6 Field Sampling Logbook

A field sampling logbook will be initiated at the start of the first onsite sampling activity and maintained to record sampling activities throughout this remediation project. The field sampling logbook is a controlled document that becomes part of the permanent site file. The logbook will consist of a bound notebook with consecutively numbered pages that cannot be removed. All data entries will be recorded using a non-erasable ink pen.

The following items will be included in the daily entries in the field sampling logbook:

- Date of activities
- Names of sampling personnel and observers
- Arrival and departure times of sampling personnel and observers
- Field sampling activities
- Individual sample description (color, consistency, odor, etc.)
- Individual sample location (sediment and soils)
- Sample pick-up, including chain-of-custody form number, carrier, date and time
- Unusual events during sampling
- Health and safety issues related to sampling
- Weather conditions

A.8.0 Laboratory Analysis

All environmental samples submitted to the laboratory for this project will be analyzed for PCB (Aroclor), and solid content.

Laboratory analyses will be performed by Pace Analytical Services in Indianapolis, IN. Samples will be submitted to Pace for analysis via hand delivery, courier or overnight package delivery (FedEx).

Prior to performing any analytical testing of the sediments, pore water that may have settled on the surface of the sediments or in void spaces during transport and storage will be mixed back into the sample.

All solid samples will be analyzed in accordance with EPA Method 8082 (SW-846) with a detection limit of 0.1 ppm for a full level 4 data quality analysis as presented in Table D of this plan. Sample results will be analyzed and reported on a dry basis. Percent solids analysis will be per EPA Method 2540B.

All samples will be subject to all laboratory QA/QC requirements prior to submittal of the final analytical results.

Table C summarizes the sample types, sample preservation requirements, and holding times. Table D lists the analytical parameters.

MS/MSD sample analyses will be required at the laboratory for each batch of sample matrices. Additional sample volume will be required for the field duplicates and MS/MSD samples.

A.9.0 Data Validation and Reporting

A.9.1 Data Validation

Verification and validation of the data will be performed to determine the usability of the data and to ensure results are generated in accordance with the procedures defined within. Specifically, validation will be performed on all samples that pass the cleanup criteria and therefore will be left onsite after remediation. The generated data set will be validated for precision, accuracy, representativeness, completeness, and comparability.

Field data will be recorded on the appropriate field record form or in a bound field sample logbook. All field data will be verified and reviewed by the Field Sampling Manager.

A.9.2 Data Reporting

All results will be reported by the laboratory to the Field Sampling Manager or his designee by sample batch and will be certified by the laboratory. Standard data turnaround time is two to four weeks following laboratory receipt of samples. Preliminary data may be obtained on a more rapid turnaround. All reports and documentation required, including QC results will be clearly labeled with the laboratory sample number and associated field sample number.

The analytical results will be adjusted by the lab for dry weight concentrations. Maps showing final dry weight sample results will be generated for the Field Sampling Report.

Analytical results for PCBs will be given in units of mg/kg for solids and µg/L for liquid samples. In addition to the analytical results and QC data, details regarding the corrective actions taken and a discussion of any necessary modifications of the protocols established in the referenced methods will be included in the final data report. The final data package submitted by the analytical laboratory will include a summary of the analytical results for each sample as well as all reports and documentation generated as required by the analytical methods. The Field Sampling Manager will compare the final data package to the preliminary results.

All samples will be subject to all laboratory QA/QC requirements for Analytical Level 4 reporting prior to submittal of the final analytical results for this project. The analytical laboratory will provide the Analytical Level 4 data package for all samples using EPA Method 8082.

Following completion of the field investigation and receipt of all analytical data, CBS will prepare a report that will document the results from the soil sampling and analysis program and include the following elements:

- A complete description of the field sampling activities, including observations made during collection of field samples
- Summary of any variances from the sampling plan or field sampling procedures, and the potential impact on data usability
- Analytical results will be presented in tables, figures, and GIS maps, with cross-referencing to the sampling stations
- An interpretive discussion of the results
- Validation summary

In addition, raw data and other information will be kept on file and made available upon request, including:

- field logs and notes
- sample chain-of-custody forms
- laboratory summary data reports

The sampling report will be provided in electronic format.

A10.0 Health and Safety

Appropriate health and safety procedures will be followed during the field activities, including sample collection and sample processing. Site-specific health and safety procedures are defined in the Health and Safety Plan contained in Appendix B.

Appendix B

HEALTH AND SAFETY PLAN

Appendix B

HEALTH AND SAFETY PLAN

DELINEATION AND REMEDIATION OF PCB-IMPACTED SOILS PROGRESS RAIL FACILITY MUNCIE, INDIANA

Prepared for:

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February 6, 2015
PSARA PN 30700.06

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SECTION 1: INTRODUCTION

This site-specific Health and Safety Plan (HASP) describes the health and safety procedures to be implemented during the delineation and remediation of soils impacted with polychlorinated biphenyls (PCBs) at the Progress Rail facility in Muncie, Delaware County, Indiana. This work is being conducted by CBS Corporation (CBS) through USEPA Region 5 under EPA 761.61(c) for a risk-based remediation. The purpose of the HASP is to communicate the known and suspected hazards associated with the project and to establish appropriate safety procedures for all companies, agencies, and personnel working at the site.

This HASP has been developed through the cooperation of key employees of CBS and PSARA Technologies, Inc. (PSARA). Prior to the start of work, each contractor will be required either to adopt this HASP for their personnel or to submit a company-specific HASP to the site Health and Safety Coordinator (HSC) for review and comment. Any company-specific HASP, however, must be at least as protective of site personnel as this site-specific HASP.

Should additional contractors or subcontractors become involved in potentially hazardous work at the site, they will be required to adopt the site-specific HASP for their personnel. In this event, the new contractor will be given the opportunity to review this HASP and request any modifications appropriate to the nature of their work. Any request for site-specific HASP modification must be reviewed and approved by the site HSC and the CBS Project Manager as described in the HASP.

The term "site" as used throughout this document refers to those portions of the Progress Rail facility that will be secured for soil delineation and remediation activities. This includes all exclusion zone and support zone areas.

The procedures contained herein are based upon the best available information at the time of the plan's preparation. As new information becomes available, the HASP will be revised accordingly to ensure protection of site personnel. To make a revision to the HASP document, the revision must be described in a Memorandum of HASP Modification, approved by the HSC and the CBS Project Manager, and provided to the health and safety coordinator from each contractor on site for review and comment.

SECTION 2: KEY PERSONNEL/IDENTIFICATION OF HEALTH AND SAFETY OFFICER

The following individuals have been identified as key personnel for this project. Their roles and responsibilities are described in this section.

CBS Project Manager:	Mr. Russell Cepko
PSARA Project Manager:	Mr. Mike Hessling
Site Health & Safety Coordinator:	Mr. Carl Ketchem

2.1 CBS PROJECT MANAGER

The CBS Project Manager will have overall responsibility for all aspects of the project. He will be on site as necessary to ensure that the project is being conducted in accordance with the project work plans. The CBS Project Manager will be responsible for approving (on behalf of CBS) any modifications to the technical approach or any alternates or equivalents that may be suggested by the contractor.

2.2 PSARA PROJECT MANAGER

The PSARA Project Manager or his designee will be responsible for overseeing daily project activities and for coordinating the various contractors involved in the project. He will be responsible for documenting and reporting daily progress and resolving issues related to safety, air monitoring, or project operations.

2.3 DRILLING CONTRACTOR PROJECT MANAGER

The Drilling Contractor Project Manager will be responsible for implementing the drilling described in the work plan and for supervising contractor employees. In addition, he will be responsible for ensuring that all drilling personnel meet applicable regulatory requirements (i.e., training and medical monitoring) and conduct work operations in accordance with the requirements of this HASP.

2.4 SITE REMEDIATION CONTRACTOR PROJECT MANAGER

The Site Remediation Contractor Project Manager will be responsible for implementing the excavation described in the work plan and for supervising contractor employees. In addition, he

will be responsible for ensuring that all excavation personnel meet applicable regulatory requirements (i.e., training and medical monitoring) and conduct work operations in accordance with the requirements of this HASP.

2.5 SITE HEALTH AND SAFETY COORDINATOR

The site HSC will have primary responsibility for the daily implementation of the HASP at the site. This person will be responsible for all health and safety activities, including safety training, site inspections, and decontamination of personnel, equipment, and materials leaving the site. The HSC will also be charged with the responsibility of enforcing the use of personal protective equipment and training site personnel as outlined in Sections 4 and 5 of this HASP. The HSC will have experience in field operations with air monitoring instruments, personal protective equipment, decontamination procedures, and emergency equipment and procedures. In addition, the HSC will conduct a project chemical inventory and will provide material safety data sheets (MSDSs) for each chemical identified to the CBS Project Manager. Copies of the MSDSs will also be maintained by the HSC at the site.

SECTION 3: TASK/OPERATION SAFETY AND HEALTH RISK ANALYSIS

This section addresses the identified health and safety hazards associated with the activities covered by this HASP. Specific hazards associated with each task to be performed are outlined in the Health and Safety Requirements Matrix presented in Appendix A.

Additional job hazard analyses will be performed by the site HSC and the Remediation Contractor Project Manager on an as-needed basis. These task-specific hazard analyses will address the hazards and safety procedures associated with individual operations or tasks, such as permitting a confined space entry or developing a lifting plan for crane operations.

3.1 SITE DESCRIPTION

3.1.1 Site History

The Progress Rail facility occupies 300 acres, with 750,000 square feet under roof, and is located in a rural setting in the southwest portion of the City of Muncie, Delaware County, Indiana. Figure 1 shows the location of the site within the surrounding community. The site is located at 3500 South Cowan Road, which places it immediately east of Cowan Road and south of 23rd Street. The areas surrounding the site consist primarily of light industrial and undeveloped land. A few residences are located within a 1/2-mile radius of the site. Figure 2 shows the configuration of the site and adjacent properties.

The plant was constructed in 1961 for the manufacture of large power transformers and the repair/rebuilding of shell-type transformers. New transformers were filled with non-PCB-containing dielectric fluid. The use of PCB fluids in transformer manufacturing operations was limited to heat transfer fluids. Westinghouse Electric Corporation (now known as CBS Corporation) operated the plant until February 1989, when joint operations began with Asea Brown Boveri Power T&D Company (ABB). The joint operation continued until December 1989, when ABB purchased the plant from Westinghouse and became the sole operator. Manufacturing operations ceased in the latter part of 1998; most of the machinery and equipment was dismantled and removed during 1999. CBS and ABB jointly entered the Vapotherm tank farm and process areas into the IDEM Voluntary Remediation Program in 1999 under IDEM VRP #s 6000407 and 6000408, respectively. The facility was acquired by Commercial Development Corporation circa 2002, which leased the facility for warehousing cans to be used in the packaging of tomato-based products until 2006. In 2007, the facility was acquired by Arizona Maricopa Associates, LLC, a real estate trust, who are the current owners. Currently, the facility is leased to a tenant, Progress Rail Manufacturing Corporation (PRMC), a subsidiary of Caterpillar. PRMC has modified the plant for the purpose of manufacturing locomotives at the facility.

During Westinghouse operations from 1964 to 1982, PCB fluids were used in the transformer manufacturing operations as a heat transfer fluid in a closed loop drying process called the Vapotherm process system. The former Vapotherm process area was located inside the high bay area in the west-central section of the plant. A tank farm area serviced the Vapotherm process and was located immediately outside the building, next to the high bay area. The tank farm area contained three to five aboveground storage tanks, including a 4,500-gal waste solvent/oil tank that was known to have held PCB fluids. In the early 1980s, approximately 3,500 gallons of a mixture of heat transfer fluids containing PCBs spilled onto the ground from a storage tank within this tank farm. The Vapotherm process units, including all tanks and related equipment in the tank farm, were removed from the plant in 1982. The closure of the tank farm included excavation of contaminated soils that continued into 1984. During the removal of the Vapotherm equipment within the building, PCBs were encountered in a sump. Approximately 2,000 gallons of fluid were pumped from the sump. The sump was subsequently filled with gravel and topped with concrete.

3.1.2 Sanitary Sewer Line

Additional site investigations were conducted in the 1990s that identified residual PCBs within the former Vapotherm tank farm soils above the low-occupancy cleanup levels. Subsurface investigations beneath the plant floor of the former Vapotherm process area identified a PCB-contaminated light nonaqueous-phase liquid (LNAPL) plume. Interim remedial activities were initiated in 1994 that involved LNAPL removal from the recovery wells inside the plant building.

In 1995, sewer lines in the Vapotherm area were filmed to determine if PCB-contaminated oil/water was infiltrating the sewer pipes from the surrounding fill, causing the sewer water discharge to exceed PCB discharge limits. Pipes that showed in-leakage were lined to prevent further infiltration. The lined 10” sanitary sewer lines were found to contain free product. Two new manholes, MH-14 inside the building, just north of the old Vapotherm area, and MH-7, just outside the building, were added to allow access to line the 10” sanitary pipe. During the installation of MH-14, PCB oil/water was encountered that seeped into the excavation. Approximately 1,400 gallons had to be pumped from the MH-14 excavation and disposed of.

Two 4” lateral lines that run north-south through the former Vapotherm area cross the 10” sanitary sewer line and connect to the 18” storm sewer line running parallel to and just north of the sanitary line, as shown on Figure 3. These 4” pipes were too small to line and therefore were taken out of service by filling them with grout. Even though these lines were grouted on the inside, the gravel and sand bedding on the outside of the lines can still act as a pathway for PCB-laden LNAPL from the Vapotherm area to flow out to the sanitary sewer line.

PRMC was notified by the Muncie Sanitary District in 2013 of the requirement to separate the sanitary and storm sewer lines at the facility. In anticipation of these sewer changes, LP Environmental (LP) sampled soils in and around the existing and proposed new sewer line routes. Analytical results from the soil sampling found elevated levels of PCBs associated with

the facility sewer lines (Line 1 and Line 2) and observed free product within the soil column adjacent to Line 1, as depicted in Figure 4.

3.1.3 Asphalt Roadway

On October 22, 2012, LP performed pre-construction sampling in preparation for asphalt paving repair work in the roadway around the southeast area of the plant (Area A/North and Area B/ South), as shown in Figure 5. The analytical soil sample results found concentrations of PCBs at each location exceeding the Toxic Substances Control Act (TSCA) low-occupancy standard of 25 ppm. In Area A/North, these exceedances were identified in W-101 from 0 to 6 inches below grade (bg), at AP-101 from 0 to 6 inches bg and at Z-10 from 0 to 5 feet bg. In Area B/South, two soil samples had elevated PCB concentrations from 0 to 6 inches bg in AP-121 and AP-129. The impacts were delineated with surrounding samples less than the TSCA standard.

In January 2013, CBS continued the delineation of Area A/North by stepping out in all directions from W-101; W-101 was also resampled to 5 feet bg. Soil analytical results found PCB concentrations below the TSCA standard with the exception of AA3 to the east and AA2 to the south. In addition, former sample locations Z-2 and Z-10 were resampled in smaller intervals. Analytical results found Z-10 exceeded the TSCA standard from 0 to 6 inches bg.

3.2 SCOPE OF WORK

The Remediation Work Plan for the sanitary sewer line and asphalt roadway objectives include additional delineation sampling within the sanitary sewer lines and asphalt roadway, excavation of soils with PCB exceedances, and installation of a new sewer line.

The remedial action objectives (RAOs) for this project are as follows:

Western Sewer Line PCBs

- Reduce the amount of PCBs along the western sewer lines to allow the storm and sanitary sewer lines to be separated.
- Reduce the amount of PCBs in the asphalt above the middle sewer line, L2, to allow the storm and sanitary sewer lines to be separated.

Southeast Asphalt Roadway

- Remove the soils and asphalt in the Area A/North and Area B/South areas to allow the repair of the degraded asphalt roadway located in the rear southeast corner of the facility.

3.3 CLEANUP CRITERIA

The cleanup criteria proposed for this cleanup is the U.S. Environmental Protection Agency (EPA) low-occupancy PCB limit of <25 ppm for individual delineation and verification results representing soils and asphalt left in place. Sample results for stockpiled overburden materials that may be returned as backfill within these areas will also be sampled to <25 ppm for reuse.

The activities envisioned for fulfilling the remedial plan is as follows:

1. Additional delineation sampling.
2. Clearing and access construction.
3. Establishing grids to determine excavation boundaries.
4. Removal of soils and disposal at appropriate licensed landfills.
5. Confirmation that the excavation meets the required cleanup criteria.
6. Installation and testing of a new sanitary sewer line
7. Backfilling with clean soils and grading to drain.
8. Restoration.

3.4 CHEMICAL HAZARDS

Polychlorinated biphenyls were determined to be the primary constituents of concern on site. Material safety data sheets for PCBs are presented in Appendix B. The MSDSs provide a summary of toxicological data information, chemical properties, and proper handling procedures for the materials.

Activities that involve a potential for exposure to PCBs include, but are not limited to:

- Drilling
- Excavation
- Soil and groundwater sampling
- Handling of investigation- and remediation-derived wastes
- Personnel and equipment decontamination

The personal protective equipment (PPE) and procedures specified for these specific activities will reflect the level of protection needed.

In this instance, the potential for public exposure is greatest through the direct contact route. Site activities that do not involve the handling or removal of potentially affected material have minimal potential for chemical exposures. For onsite personnel not associated with the remediation activities, the area will be cordoned off.

Every hazardous chemical that is brought on site by any of the contractors must be reported to the site HSC in accordance with the Occupational Safety and Health Administration's (OSHA's)

Hazard Communication Standard, 29 CFR 1910.1200. A description of the site-specific Hazard Communication Program is presented in Section 13.

3.5 BIOLOGICAL HAZARDS

Biological hazards include plants, animals, bacteria, or viruses that may cause disease in humans. A wide variety of biological hazards are present in and around the site work area. These include, but are not limited to, ticks (Lyme disease and Rocky Mountain spotted fever), poison ivy and poison oak, chiggers, rodents, bees, wasps, snakes, and bloodborne pathogens. Workers should avoid contact and adopt appropriate controls. Allergic reactions caused by contact with plants, insect bites, and other biological hazards should be reported to the site HSC.

All first-aid activities involving potential exposure of personnel to blood or blood-tainted (contaminated) body fluids shall be conducted in accordance with the requirements of the Bloodborne Pathogen Standard, 29 CFR 1910.1030. Personnel involved in first-aid procedures shall don the proper PPE and dispose of blood-contaminated materials as required. Responding personnel will don surgical gloves and other PPE deemed necessary by the site HSC at the time of the incident. An adequate inventory of such PPE will be maintained with the first-aid kit located at the first-aid station near the decontamination area. Contact with blood or blood-tainted body fluids during first-aid procedures should be reported immediately to the HSC.

3.6 PHYSICAL AND ENVIRONMENTAL HAZARDS

Physical and environmental hazards may be encountered during work activities. The site HSC will be responsible for maintaining written procedures or Safety Standard Operating Procedures (SSOPs) for many of these activities. Contractors or subcontractors preferring to use their own procedures may do so, where applicable, provided they are at least as protective of site personnel as this site-specific HASP. Prior to using an alternate procedure, however, the contractor will be required to submit the company's written program to the site HSC for approval. Work activities will be performed in accordance with applicable OSHA regulations. Specific emphasis will be placed on the anticipated physical and environmental hazards described in the paragraphs that follow.

3.6.1 Slips, Trips, and Falls

All work paths and work areas must be kept clear of slip and trip hazards. To control material spills, plastic sheeting will be placed on the ground during transfer of the pumps from well to well (see Section 12). Workers should be aware of the slip hazard associated with the plastic sheeting. Applicable OSHA standards for walkways, stairways, etc. (29 CFR 1926.500) will apply.

3.6.2 Heavy Equipment

The number of ground personnel working around heavy equipment shall be kept to a minimum. Workers should maintain eye contact with operators. Only experienced equipment operators shall be permitted to operate heavy equipment. All machines will be supplied with a fire extinguisher and a backup horn. The equipment operator shall inspect the equipment each morning prior to use to ensure that all safety equipment and devices (e.g., backup alarms, brakes) are fully operational. A drill rig and Geoprobe will be used as part of the investigation.

3.6.3 Fuel Storage

A storage area will be established in the support zone for all fuels and other flammable liquids. The area will be clearly marked with "Caution - Flammables" and "No Smoking" signs. The area also will include a secondary containment berm to control spills. Site personnel will strictly adhere to applicable provisions of 29 CFR 1926, Subpart F, Fire Protection and Prevention, when handling, using, and storing flammable and combustible materials. The fuel storage area will be inspected daily by the site HSC for signs of leakage, spillage, containment integrity, and improper storage.

3.6.4 Electrical Power

All electrical power must have a ground fault circuit interrupter as part of the circuit. All equipment must be suitable and approved for the class of hazard. Applicable OSHA standards for electrical equipment (29 CFR 1926, Subpart K) shall apply.

3.6.5 Equipment Decontamination - Pressure Washer Operations

Personnel participating in equipment decontamination activities shall be properly trained in the operation of the pressure washer prior to beginning decontamination activities. Equipment shall be inspected each day prior to use. All personnel shall don the proper PPE as defined in Section 5. The area will be clearly marked, and all employees not directly involved in these activities shall remain outside the work area.

3.6.6 Heat Stress

When the temperature exceeds 70°F and personnel are wearing protective clothing, a heat stress monitoring program will be implemented, as appropriate. The site HSC will be responsible for implementing this program and for monitoring site personnel for the signs and symptoms of heat stress.

Adequate drinking water will be made available by the contractor at work stations.

3.6.7 Cold Stress

Potential exposure to extreme cold coupled with the presence of moisture may result in cold stress-related disorders. The site HSC will be responsible for monitoring site personnel for the signs and symptoms of cold stress (e.g., skin condition and color, sluggishness). If the signs and symptoms of cold exposure are discovered, the HSC will be responsible for implementing appropriate first-aid procedures. An enclosed, heated environment will be made available at the site for the duration of the project.

3.6.8 Flame, Heat, or Spark-producing Operations

Utilization of flame, heat, and/or spark-producing equipment (e.g., cutting or welding torches, abrasive saws) will probably not be necessary during the course of this project. However, when the use of such equipment is necessary, the employee will obtain a Hot Work Permit from the site HSC, and the operation will be carefully monitored to ensure compliance with the provisions stated in 29 CFR 1926.353 for flame, heat, or spark-producing operations.

3.6.9 Noise

Those employees working around heavy equipment or in other noisy areas are subject to possible exposure to noise above the OSHA Permissible Exposure Limit (PEL) of 90 decibels (dBA). All heavy equipment operators will be required to use hearing protection unless sound level measurements clearly demonstrate that protection is not required. Other employees will utilize hearing protection when working around heavy equipment or in areas where sound level measurements in excess of 85 dBA are encountered.

3.6.10 Lifting

All personnel should know their lifting limits and the proper way(s) to lift an object. Lifting should be limited by factors such as: the route and distance to be traveled, the amount of time required, and the center of gravity necessary to handle the load safely. A worker shall not lift more than 50 lb without assistance from another person or mechanical help.

3.6.11 Hand Tools/Power Tools

Proper eye, face, and hearing protection shall be provided and worn while using all power tools. Prior to beginning work operations, the user shall inspect all tools. Defective tools will not be used and will be tagged out. Only tools designed for the application in mind will be used. The proper strength tool will be used as specified for each job. For hand tools, the use of handle extensions and cheater bars is prohibited.

Power tools and machines will be disconnected from their power source before making adjustments or attachment changes. Guards or safety devices will not be removed. All fuel-powered tools will be shut off before refueling. Blade guards must be in place and working

properly. Air-powered tools must have safety clips or retainers on all hose connections. Manufacturers' safe operating pressures will not be exceeded for any fittings.

3.6.12 Lockout/Tagout

In accordance with 29 CFR 1910.147 and 29 CFR 1926.417, no work shall be performed on or around any utility lines without proper lockout/tagout procedures in place. Utility lines such as electrical, steam, water, or gas must be rendered inoperative to protect personnel from an unexpected energization or startup that could cause injury. All personnel on this site are required to follow the lockout/tagout procedures that appear in PSARA's Standard Operating Procedure SP-015, Lockout/Tagout. A copy of this procedure will be maintained at the site for the duration of the project.

A preliminary inspection shall be conducted by a qualified person prior to beginning work activities in order to ensure that lockout/tagout procedures have been conducted properly and that the hazards have been adequately removed or controlled.

SECTION 4: PERSONNEL TRAINING REQUIREMENTS

4.1 HAZWOPER TRAINING

All personnel (including visitors) entering the exclusion zone or decontamination zone must have completed all applicable training requirements for hazardous waste operations and emergency response (HAZWOPER) work in accordance with OSHA 29 CFR 1910.120. Copies of the current training certificates for all personnel must be provided to the site HSC before beginning work. In the event that any worker's annual training will expire during the course of the project, he must complete the required refresher training prior to the expiration date.

Personnel required to supervise or manage site investigation/cleanup personnel must have an additional 8 hours of supervisory safety training as required under OSHA 29 CFR 1910.120.

4.2 SITE-SPECIFIC TRAINING

The site HSC will design and implement a site-specific training program for all site employees. The program will present all aspects of this HASP and will provide site employees an opportunity to ask questions regarding the HASP. The HSC will instruct employees in proper material handling techniques; proper methods for the use, storage, and disposal of decontamination fluids; preventive maintenance of safety equipment; personal hygiene practices; personal protective equipment; and appropriate responses to emergencies.

The training program will provide site employees instruction on responding effectively to an emergency. The appropriate response to fires, explosions, and the shutdown of operations will be reviewed, as well as the proper response to an unacceptable level of dust resulting from site activities. Emergency procedures, areas of the site that have restricted access, methods used for project decontamination, and general safety will also be covered in the training.

At a minimum, the site-specific orientation training program will cover the following topics:

- Site history
- Explanation of effects of toxic chemicals identified at the site
- Requirements for personnel protection (e.g., respirators)
- Prohibited actions or procedures
- Safety precautions
- Emergency procedures
- Decontamination procedures
- Work areas
- Air monitoring program
- Symptoms and treatment of heat- or cold-related illness

- Location of site safety equipment, emergency phone numbers, and route to nearest hospital
- Confined space and hot work permits

Prior to working on site, replacement employees must report to the site HSC and will be required to receive the initial training. In addition, each person will be required to sign the Safety Plan Acknowledgment Form, which is included in Appendix C. By signing this form, individuals recognize the hazards present on site and agree to comply with the policies and procedures set forth in this HASP.

4.3 DAILY TAILGATE SAFETY MEETINGS

The site HSC or his designee will conduct daily safety meetings for all personnel at the site. During these meetings, the HSC will discuss any safety concerns, changes in site conditions, monitoring results, or other safety-related topics for the site remediation activities. Periodic retraining on important site-specific safety issues may also be addressed. Attendance lists, including signatures and topics discussed for all safety meetings, will be maintained as part of the project safety records.

SECTION 5: PERSONAL PROTECTIVE EQUIPMENT TO BE USED

5.1 GENERAL

The following subsections describe the minimum protective equipment to be used by all personnel involved in project operations at this site. The PPE described here has been selected based on the anticipated chemical and physical hazards associated with each work zone and job function included in the Remediation Work Plan. This plan may be modified if project hazards or air monitoring results identify higher-than-anticipated levels of PCB exposure.

5.2 PERSONAL PROTECTION MATRIX

Table 1 provides a list of job functions and work zones and identifies the personal protection required for each scenario. As additional work tasks are identified during the course of the project, the site HSC will be responsible for identifying the appropriate regimen of personal protection and for adding the new scenario to this table.

Table 1. Personal Protection Requirements for Specific Activities
Delineation and Remediation of PCB-Impacted Soils
Muncie, Indiana

Activity	Location	Level of Protection
Site preparation	Entire site	Level D
Drilling	Exclusion zone	Modified Level D
Soil excavation	Exclusion zone	Modified Level D
Soil and groundwater sampling	Exclusion zone	Modified Level D
Disposal of investigation- and remediation-derived wastes	Exclusion zone	Modified Level D
Equipment decontamination (end of project)	Contamination reduction zone	Modified Level D with splash gear
Support zone operations	Support zone	Level D

5.3 LEVELS OF PERSONAL PROTECTIVE EQUIPMENT

The following are brief descriptions of the levels of PPE that will be required for site activities.

Level "D" Protection

This is the minimum level of protection for all personnel on site and is generally required for all support zone operations.

- Field work uniform
- Steel-toe/steel-shank work boots
- Safety glasses with side shields
- Hard hat

Modified Level "D" Protection

This is the level of protection that is initially anticipated for excavation and soil and groundwater sampling activities inside the exclusion zone.

- Tyvek coveralls
- Latex, vinyl, or nitrile inner gloves
- Nitrile outer gloves (taped to outer suit)
- Chemical-protective neoprene overboots (taped to outer suit)
- Steel-toe/steel-shank work boots
- Safety glasses with side shields
- Hard hat

Modified Level "D" Splash Gear

This dress-out regimen is intended primarily for all "wet" work involving contact with PCB-affected decontamination or runoff water, as during equipment decontamination operations.

- Polyethylene-coated Tyvek or Saranex coveralls with hood
- Latex, vinyl, or nitrile inner gloves
- Nitrile outer gloves (taped to outer suit)
- Chemical-protective neoprene overboots (taped to outer suit)
- Steel-toe/steel-shank work boots
- Safety glasses with side shields
- Hard hat
- Splash shield

Level "C" Protection

This is the level of protection that will be implemented if personnel exposure exceeds the action levels identified in Section 7.

- Full-face air-purifying respirator with high-efficiency particulate air (HEPA) filter cartridge
- Polyethylene-coated Tyvek or Saranex coveralls with hood
- Latex, vinyl, or nitrile inner gloves
- Nitrile outer gloves (taped to outer suit)
- Chemical-protective neoprene overboots (taped to outer suit)
- Steel-toe/steel-shank work boots
- Respirator optical kits, where appropriate
- Hard hat

Level "B" Protection

While it is not anticipated that Level “B” protection will be needed at this site, this is the level of protection that will be implemented if personnel exposure exceeds the action levels identified in Section 7.

- Self-contained breathing apparatus or airline with a 5-minute egress bottle
- Polyethylene-coated Tyvek or Saranex coveralls with hood
- Latex, vinyl, or nitrile inner gloves
- Nitrile outer gloves (taped to outer suit)
- Chemical-protective neoprene overboots (taped to outer suit)
- Steel-toe/steel-shank work boots
- Hard hat

SECTION 6: MEDICAL SURVEILLANCE REQUIREMENTS

Medical screening provides a method for identifying those employees whose medical history indicates potentially increased health risk when exposed to contaminants present within a working environment. The medical screening directly and indirectly measures the functional activity of organs potentially affected by chemical exposure during work and assesses the employee's ability to utilize protective equipment safely.

All contractor employees engaged in hazardous waste work will be required to participate in their respective company-sponsored medical monitoring programs, have a medical examination by a qualified physician, and be in good health prior to starting site work. An annual physical will serve as an exit examination for full-time and contractor employees. At a minimum, the examination must be in accordance with OSHA Standards 29 CFR 1910.120 and 29 CFR 1910.134.

The medical examination must include a judgment by the examiner of the ability of the person to use negative- or positive-pressure respirators and whether he is medically able to perform his job. An individual determined to have a medical condition that could be aggravated directly or indirectly by exposure to those chemical substances or special conditions within the work environment will not be allowed to participate in any activity that could result in such exposure. Some typical conditions that might require such measures include reduced lung function (which would be a problem for respirator wearers), back conditions (which would limit one's ability to lift heavy objects), and liver conditions (which might be aggravated by exposure to lower levels of contaminants).

A physician must reexamine any employee who suffers a lost-time illness or sustains a lost-time injury during the project before returning to the work site. The physician must certify that the employee is fit to return to work before his employment on site can continue. A written copy of this certification will be maintained at the site and included in the employee's records.

No one other than personnel authorized by the site HSC will be permitted to enter the exclusion areas. Before a site exclusion zone can be entered, a statement signed by a doctor indicating that a medical examination (encompassing the tests described previously) has been successfully completed will be required of everyone except emergency medical personnel. Copies of these physician statements will be maintained by the HSC as part of the project safety records.

SECTION 7: FREQUENCY AND TYPES OF AIR MONITORING/ SAMPLING

Due to the type of remediation activities scheduled for the site, no airborne hazards are anticipated in excess of OSHA action levels. Consequently, there are no air monitoring requirements under this HASP.

SECTION 8: SITE CONTROL MEASURES

8.1 WORK ZONES

The objectives for establishing work zones at this site are to delineate clearly the hazardous area perimeter, prevent migration of hazardous materials into clean areas, and prevent access or exposure to hazardous areas by unauthorized persons. The exclusion zone will be established around the excavation area prior to the start of excavation activities. The support zone, site access, parking, and sanitary facilities will be established upon mobilization.

8.1.1 Exclusion Zone

The exclusion zone is the area where contamination does or could occur and where delineation and remediation activities will take place. The exclusion zone boundary will fluctuate as remedial activities progress. Personnel will don personal protective clothing before entering the exclusion zone as described in Section 5 of this HASP. All personnel entering the exclusion zone will be required to meet the training and medical monitoring requirements defined in Sections 4 and 6 of this HASP.

8.1.2 Contamination Reduction Zone

The contamination reduction zone/decontamination zone is the area where all personnel and equipment decontamination will take place. This area will be clearly identified, and access will be restricted. Separate facilities are anticipated for personnel and equipment decontamination, as discussed in Section 9 of this HASP.

In addition to decontamination facilities, each contamination reduction zone will include the personnel access corridor and an emergency station. The access corridor provides a single point of entry for personnel entering and exiting the exclusion zone and facilitates accurate tracking of personnel in that zone. This corridor includes a storage area for PPE and an area in which to dress out prior to entering the exclusion zone. The emergency station in the personnel decontamination area will be accessible from both the exclusion zone and the support zone and will include, at a minimum, emergency eyewash, a fire extinguisher, and a first-aid kit. Emergency equipment is further discussed in Section 10.

8.1.3 Support Zone

The support zone includes all areas for support operations, including office facilities, equipment storage, a break area, sanitary facilities, emergency vehicle access, fuel and flammable liquids storage, and designated parking. No PCB-impacted material will be placed in this zone.

8.1.4 Project Control Zone

The project control zone identifies the entire area that is under secured project control and is restricted from access by the general public. This zone is delineated for the purpose of clarifying the boundary for the prevention of accidental entry into the project work areas by the general public. Signs will be posted to deter the general public from entering the project control zone without authorization.

8.2 SITE SECURITY

Current security measures at the Progress Rail facility will be utilized during working hours.

8.3 GENERAL FIELD SAFETY AND STANDARD OPERATING PROCEDURES

The following is a list of policies and procedures to be implemented during work operations at this site:

- The "buddy system" will be used by all field personnel in the exclusion zone. Visual, voice, or radio communication must be maintained at all times.
- Eating, drinking, and smoking are permitted only in designated areas in the support zone. No smoking will be permitted except in the designated area.
- Hands and face must be thoroughly washed immediately upon leaving the contamination reduction zone and prior to eating, drinking, or smoking to eliminate bacteriological concerns.

SECTION 9: DECONTAMINATION PLAN

In general, everything that enters the exclusion zone and comes into contact with contaminated material must either be properly decontaminated or discarded upon exit from the exclusion zone. All personnel must enter and exit the exclusion zone through the decontamination zone. Any material that is generated by decontamination procedures will be stored in a designated area in the exclusion zone until disposal arrangements are made. All wash/rinse water generated during decontamination activities will be collected and transferred to 55-gal drums and staged on site pending proper treatment and disposal.

9.1 PERSONNEL DECONTAMINATION

At a minimum, the personnel decontamination facilities will include the following stations:

Station 1: Equipment drop
Station 2: Outer boot and outer glove wash and rinse, as needed
Station 3: Outer boot and outer glove removal
Station 4: Outer garment removal
Station 5: Inner glove removal
Station 6: Field wash

Personnel decontamination operations will be conducted atop plastic sheeting with bermed sides to contain liquids and other materials that may be generated in the process.

9.2 EQUIPMENT DECONTAMINATION

Prior to demobilization, equipment will be decontaminated and inspected by the site HSC or his designee before it is moved into the support zone. These inspections will be recorded by the HSC in the daily site logbook. Since site vehicles will be maneuvering on concrete pavement, the need to decontaminate the vehicles, other than excavation buckets, before leaving the facility is unnecessary.

SECTION 10: EMERGENCY RESPONSE/CONTINGENCY PLAN

The following response procedures have been developed in an effort to prepare project site personnel to respond effectively in the event of an emergency.

Several types of emergencies are outlined in the following subsections. These are not intended to cover all potential situations, and the corresponding response procedures should not be followed blindly. Every accident is a unique event that must be dealt with by trained personnel working in a calm, controlled manner. In the event of an accident/unusual event, the prime consideration is to provide the appropriate initial response to assist those in jeopardy without placing additional personnel at an unnecessary risk.

10.1 GENERAL RESPONSE CONSIDERATIONS

Emergencies must be dealt with in a manner that minimizes the health and safety risks to site personnel and the public. The following procedures will be implemented in the event of an emergency:

- First aid or other appropriate initial action will be administered by those closest to the accident/event. This assistance will be coordinated by the ranking individual on site and will be conducted in a manner such that those rendering assistance are not placed in a situation of unacceptable risk. The primary concern is to avoid placing a greater number of workers in jeopardy.

- Employees must report all accidents and unusual events immediately to the site HSC and the PSARA Project Manager.

- The site HSC is responsible for initiating the emergency response in an efficient, rapid, and safe manner. The HSC will decide if offsite assistance and/or medical treatment are required and will be responsible for alerting offsite authorities and arranging for their assistance.

- The site HSC will provide the PSARA Project Manager with an Accident/Incident Report that includes the following:

    - A description of the emergency (including date, time, duration, and cause).
    - Date, time, and name of all persons/agencies notified and their response.
    - A description of corrective actions implemented or other resolution of the incident.

- Horseplay will not be tolerated during work activities. All personnel shall be expected to act in a mature manner to prevent potential accidents/incidents from occurring during work activities.

To respond to emergencies, at least one person at the site will be certified in first aid and cardio-pulmonary resuscitation (CPR) by the American Red Cross or other approved agency. These individuals will be available to provide emergency first aid in the event of an injury.

10.2 RESPONSIBILITIES

The site HSC or a designated substitute will have the responsibility for directing response activities in the event of an emergency. The HSC will:

- Assess the situation.
- Determine required response measures.
- Notify appropriate authorities.
- Determine and direct onsite personnel during the emergency.
- At the direction of the CBS Project Manager, contact and coordinate with government agencies.

In the event that outside emergency response agencies are mobilized, the site HSC will coordinate response activities with those of public agencies.

10.3 EMERGENCY CONTACTS

Figure 6 presents a list of response agencies, organizations, and personnel who may, depending on the nature of the situation, need to be contacted in the event of a site emergency. All primary response agencies will be notified prior to commencement of work as to the nature of activities at the site.

In addition, all of these phone numbers will be verified from the project site during the initial site set-up phase of the project.

10.4 EMERGENCY RESPONSE EQUIPMENT

During the site preparation phase of the project, the drilling contractor will mobilize the appropriate emergency response equipment and facilities. At a minimum, prior to the start of drilling operations, the following equipment will be provided and tested to verify that it is in working order:

- First-aid station (i.e., stretcher, first-aid kit, and decontamination equipment); contents of the first-aid kit will meet OSHA 1910.151 requirements
- Portable eyewash station
- Chemical fire extinguishers at each work location, the decontamination area, and on all heavy equipment; type ABC, 20 lb
- List of persons and phone numbers for emergency notification
- Working telephone

Other equipment used for the routine implementation of the worker health and safety protection and monitoring programs (i.e., air monitoring equipment, confined space entry equipment) will be available as needed to support any emergency response activity.

10.5 ACCIDENTS AND INJURIES

The vast majority of worker injuries on hazardous waste sites are not chemical in nature. The injuries tend to be sprains, rashes, and lacerations, which must be treated promptly. Follow-up care is extremely important to ensure that a minor injury or illness does not become aggravated by site conditions or continued work in chemical protective clothing. All site personnel are instructed to report any and all injuries and illnesses to the site HSC.

If a person working in an exclusion zone is physically injured, Red Cross first-aid procedures should be followed. Depending on the severity of the injury, emergency medical response may be sought. If the employee can be moved, he will be taken to the edge of the work area (on a stretcher, if needed), where contaminated clothing will be removed, emergency first aid administered, and transportation to a local emergency medical facility awaited. Directions and a map to the nearest hospital are presented in Figure 7. This figure will be posted at each site telephone and will be placed in each site vehicle.

If it is necessary for outside emergency medical personnel to enter the exclusion zone to treat or move an injured worker, the site HSC will brief these personnel on the nature of the hazards present and will determine what protective equipment they must wear. Extra PPE will be available for emergencies.

If the injury to the worker is chemical in nature (e.g., overexposure), first-aid procedures will be implemented as described in the MSDS for the chemical(s) involved. Material safety data sheets for all hazardous substances that are present or will be used on the site will be compiled in the field and made available to all employees at the site HSC's office trailer. Material safety data sheets for known hazardous substances at the site are presented in Appendix B.

Personnel will conduct first aid procedures and dispose of all blood-contaminated materials in accordance with the requirements of the blood-borne pathogens standard, 29 CFR 1910.1030. All personnel shall be required to don safety glasses and latex gloves (at a minimum) when

conducting first-aid procedures and cleanup operations where blood or blood-tainted body fluids are involved. They shall also be required to wash hands, face, and neck thoroughly following cleanup activities. Potential exposures should be reported to the site HSC immediately.

10.6 FIRES

Although a fire is unlikely, the HSC will maintain effective communication to summon assistance in the event of a fire. If a fire breaks out, the site HSC will be notified immediately. The HSC will evaluate the extent of the fire and make a decision whether to call the local fire department or have site personnel attempt to operate firefighting equipment. Site personnel will only become involved in the firefighting actions when the fire is clearly within the capability of the fire extinguishers on site. All personnel shall be trained in the use, capabilities, and limitations of the available fire extinguishers.

10.7 WORK ZONE EVACUATION PLAN

Procedures for evacuation have been established for this project even though the materials being handled and the procedures being used make an actual evacuation extremely unlikely. The rendezvous point in the event of an emergency will be the guardhouse presented in Figure 2.

Two types of evacuation procedures are in place for this project: emergency evacuation procedures and non-emergency evacuation procedures. An emergency evacuation is warranted only if the nature of the situation is so extreme that implementation of a more controlled and orderly non-emergency procedure could endanger the health or safety of site personnel.

In the event that an employee identifies a situation on the site that he believes warrants an evacuation, he should immediately notify the site HSC, the PSARA Project Manager, or his immediate supervisor. Generally, the HSC or PSARA Project Manager will be responsible for evaluating the situation and initiating an evacuation. Under extreme or obvious evacuation circumstances, however, any site worker can initiate an evacuation.

The primary means of initiating an evacuation will be an audible signal. A combination of air horns, truck horns, and site radios will be utilized to ensure that all site personnel are notified of the intent to evacuate the site. The audible signals will be as follows:

Single long blast (repeated as necessary):	Emergency evacuation signal
Double brief blasts:	Non-emergency evacuation signal

In an emergency evacuation scenario, all site personnel will be directed to discontinue what they're doing immediately, notify their buddy and any other nearby workers, and quickly leave the site via the most accessible route. Personnel should then proceed to the emergency evacuation rendezvous point located at the security guard post on the west side (i.e., front) of the Progress Rail facility and remain there until directed by their supervisor. Emergency evacuation

scenarios typically include toxic gas releases or major fires that have the potential to release toxic vapors or cut off escape routes. No such scenarios are anticipated on this project.

In a non-emergency evacuation scenario, personnel should discontinue their work, making sure all equipment is turned off and secure, and proceed with their buddy to the designated vehicle parking area for further instructions. Non-emergency evacuation scenarios may include imminent severe thunderstorms, tornado warnings, or airborne concentrations of contaminants that have reached evacuation action levels.

The site HSC or designated representative will be responsible for coordinating evacuation procedures and for conducting a head count at the rendezvous point. Missing personnel should be reported immediately to the site HSC, PSARA Project Manager, or outside response agency's representative.

SECTION 11: CONFINED SPACE ENTRY PROCEDURES

No person on this site is permitted to enter a confined space, as defined by the site HSC, until a confined space entry permit has been completed. This permit verifies that the confined space is safe for entry and that it has been tested for oxygen level, flammable vapors, and toxic gases. Monitoring of the confined space and completion of the permit are the responsibility of the HSC. All persons on this site are required to comply with the requirements of 29 CFR 1910.146, which is intended to control and protect workers from confined space hazards, and to regulate worker entry into confined spaces.

SECTION 12: SPILL CONTAINMENT PROGRAM

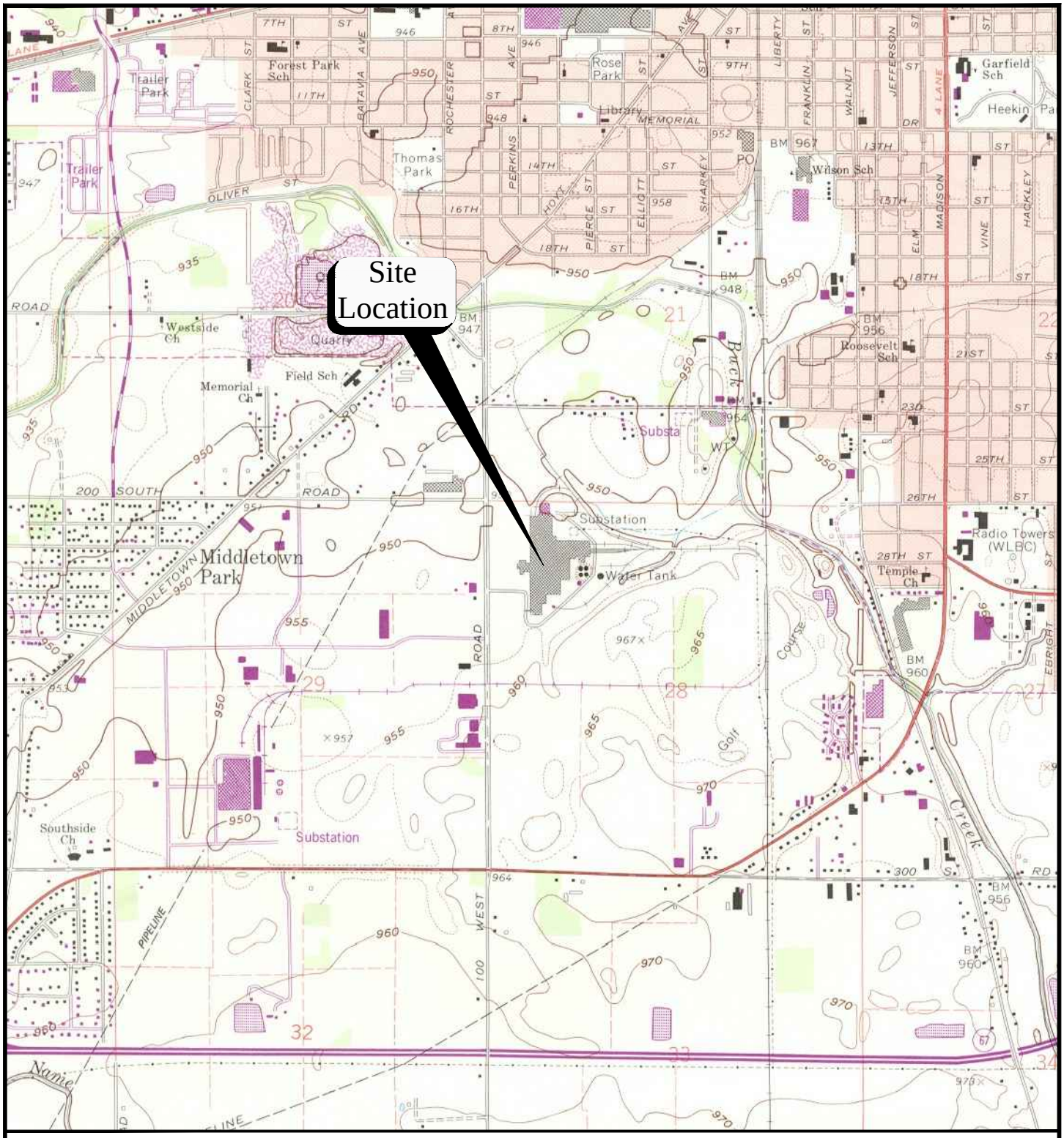
Potential spills can occur from improper fuel handling, leakage or breakage of product lines, transfer of pumps, and many other scenarios. The following procedures have been established to minimize the potential for accidental spills and to maximize site preparedness in the event that a spill does occur. In addition to these measures, the site HSC will conduct routine inspections of the site to evaluate the effectiveness of these measures and to identify and address any previously unanticipated spill scenarios.

All fuels, oils, and other flammable or combustible liquids will be stored in one designated spot on the site. This location will be equipped with secondary containment adequate to contain a release of 110 percent of the largest container plus additional freeboard to contain accumulated rainwater. The area will be barricaded in a manner that allows effective refueling but prevents accidents from vehicular traffic. Signs will be posted identifying the area and prohibiting smoking.

SECTION 13: HAZARD COMMUNICATION

The site will maintain a written Hazard Communication Program as required by OSHA's Hazard Communication Standard, 29 CFR 1910.1200. All companies operating on the property will be briefed on the Hazard Communication Program and will be given a written copy for review. Any hazardous material that is present on site must be addressed in the site-specific Hazard Communication Program, which will be available at the office trailer. A chemical inventory will be kept to track all chemicals that are brought on site. The written Hazard Communication Program will address all hazards associated with the chemicals in use. The hazards associated with these materials will be conveyed by the site HSC to personnel involved in their use prior to beginning work activities.

FIGURES



N

SCALE 1:24000

1 .5 0 1 Mile

1000 0 1000 2000 3000 4000 5000 6000 7000 Feet

1 .5 0 1 Kilometer

30700.06 – CBS – Muncie (QAPP) – Figure 1 – Site Location Map.dwg

PSARA TECHNOLOGIES, INC.

LEGEND

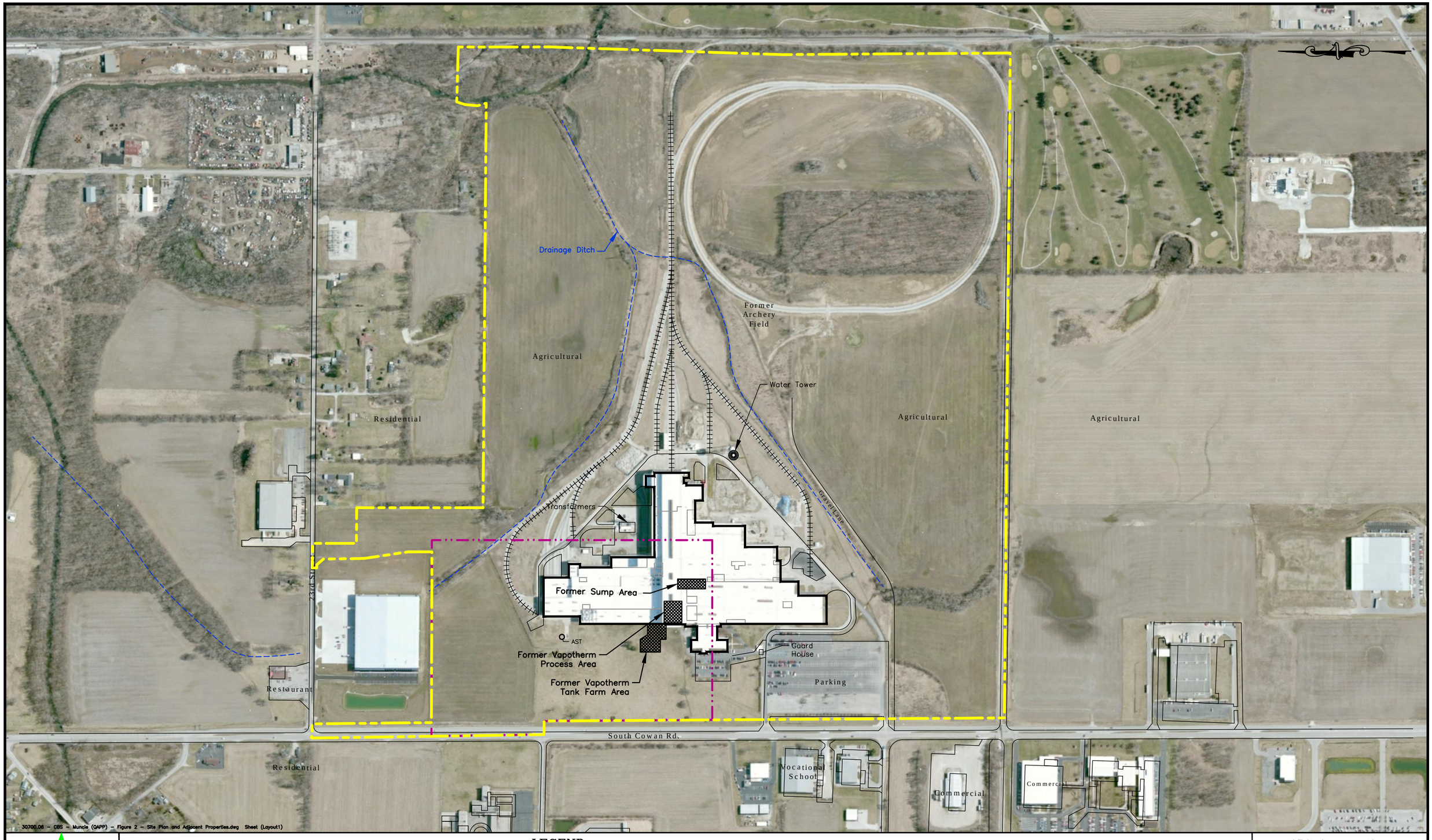
USGS 7.5 Minute Quadrangle

Muncie West, Indiana
40085-B4-TF-024

CBS Corporation

Figure 1.
Site Location Map
Progress Rail Facility
Muncie, Indiana

Drawn By:	Date:	Scale:
RLR	2/10/15	1"=2000'



PSARA TECHNOLOGIES, INC.

LEGEND

Property Line

Covenant Not to Sue Boundary for VRAs 6000407 & 6000408

Graphic Scale

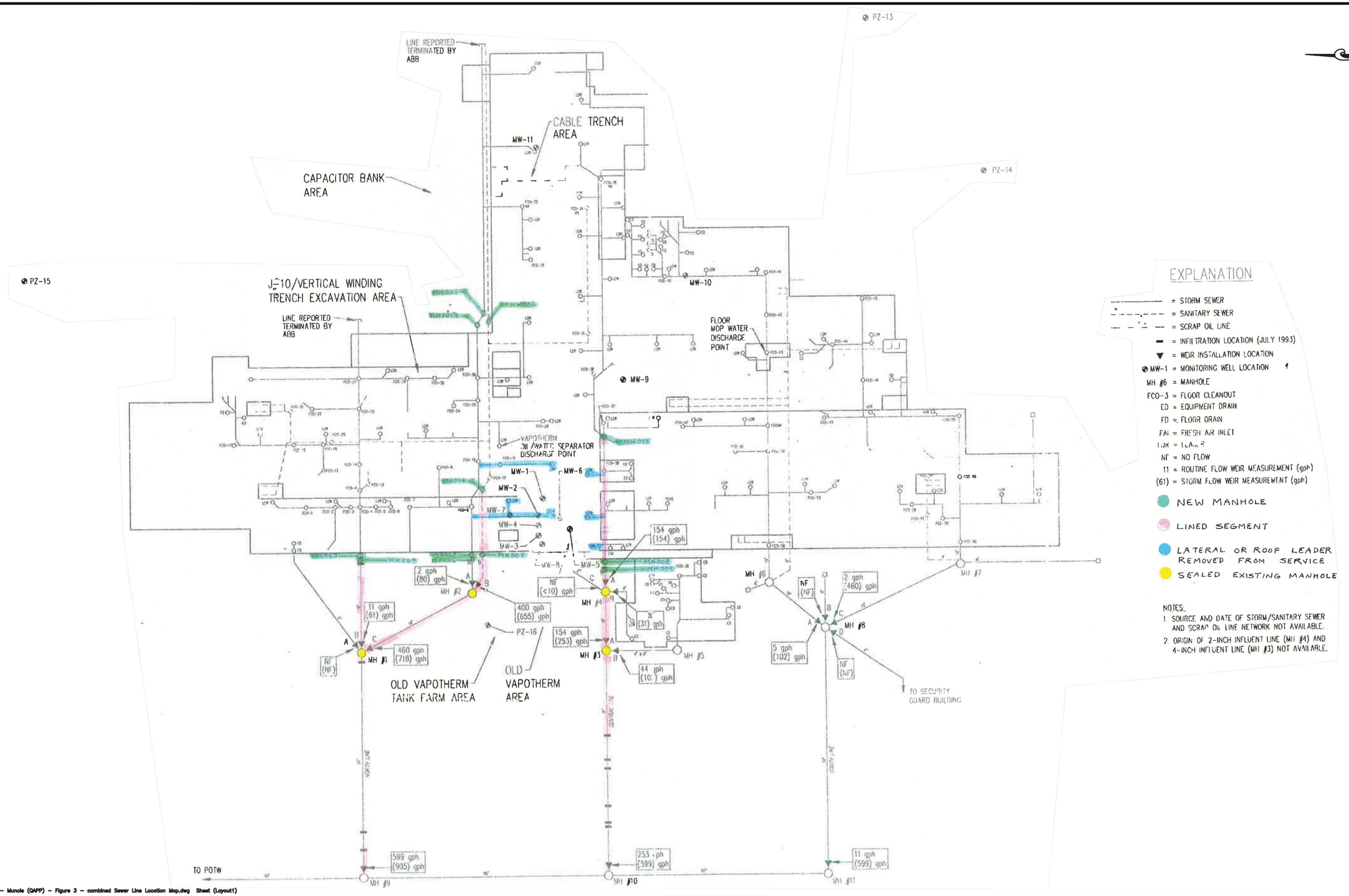
0 250 500

(in Feet)

CBS Corporation

Figure 2.
Site Layout Map
Progress Rail Facility
Muncie, Indiana

Drawn By:	*Date:*	*Scale:*
RLR	1/23/14	1"=500'



30700.06 – CBS – Muncie (DAPP) – Figure 3 – combined Sewer Line Location Map.dwg Sheet (Layout1)

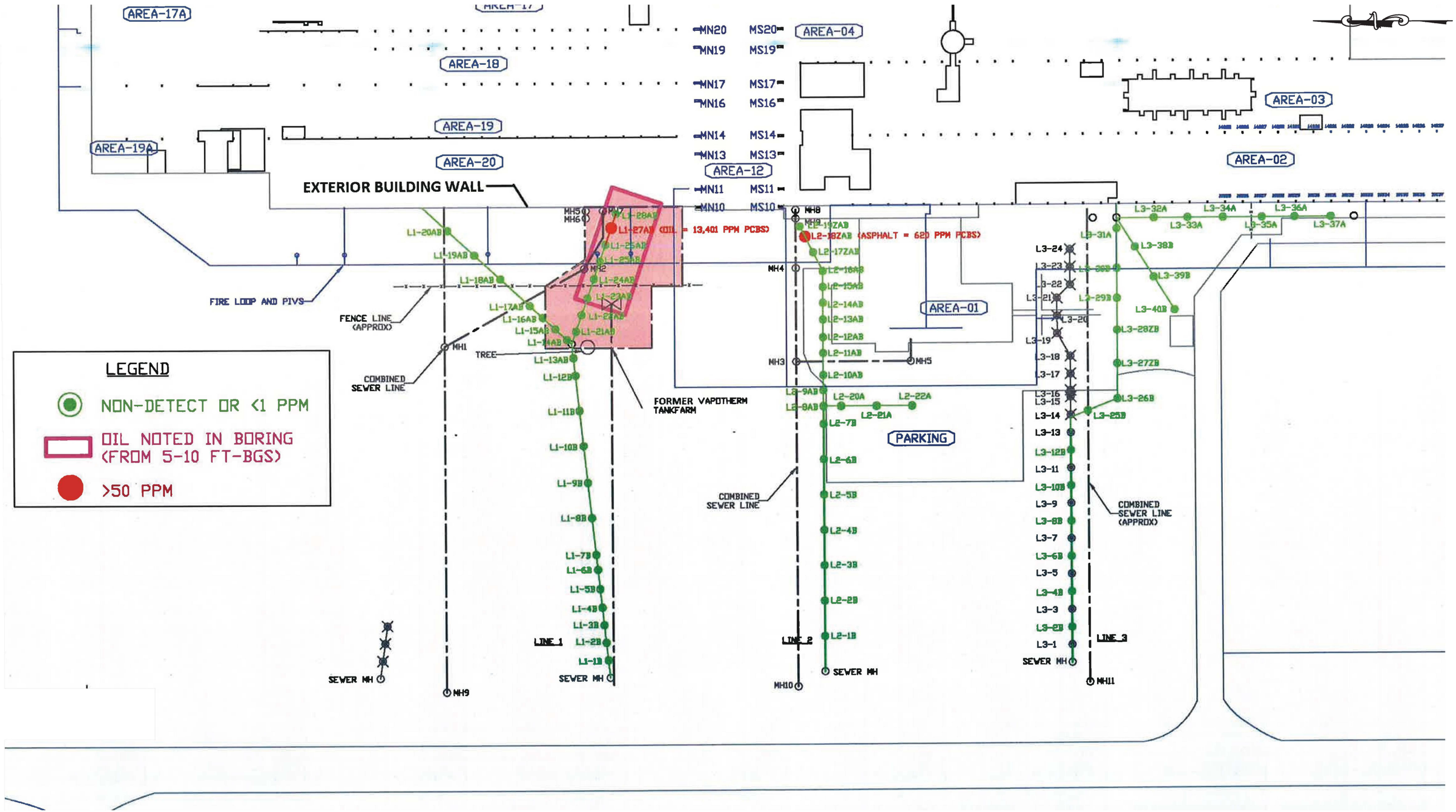
PSARA TECHNOLOGIES, INC.

LEGEND

CBS Corporation

Figure 3.
Combined Sewer Line Location Map with Flow Rate Measurements
Progress Rail Facility
Muncie, Indiana

Drawn By:	*Date:*	*Scale:*
RLR	2/10/15	NTS



30700.06 – CBS – Muncie (QAPP) – Figure 4 – Sewer Separation Sampling.dwg Sheet (Layout1)

PSARA TECHNOLOGIES, INC.

LEGEND

CBS Corporation

Figure 4.
Site Diagram
Sewer Separation Sampling
Progress Rail Facility
Muncie, Indiana

Drawn By:	Date:	Scale:
RLR	2/10/15	NTS

LP Environmental South East Asphalt Roadway PCB Sampling Locations

AREA A/NORTH

AREA B/SOUTH

LEGEND
- APPROX. EXTENT OF AREA
- PERVIOUS SURFACE, GRASS
- ASPHALT SURFACE
- 105 ASPHALT SAMPLE
- SOIL SAMPLE

98 100 Z-36 103 105 104 106 97 99 Z-1 102 Z-3 Z-2 Z-4 Z-37 NW 101 101 W 101 213 SW 101 96 215 211 Z-38 Z-8 Z-7 214 Z-6 212 Z-5 Z-9 Z-10 Z-11 Z-12

113 Z-17 114 Z-16 108 118 111 Z-21 Z-20 121 119 Z-18 120 123 Z-19 124 Z-22 Z-23 206 125 Z-24 Z-25 126 127 207 122 205 Z-29 Z-28 Z-27 Z-26 216 129 204 128 130 Z-32 Z-31 Z-30 138 203

TSCA, >50 ppm PCBs

Low Level PCBs, <50 ppm & >25 ppm

<25 ppm PCBs, EPA low occupancy Limit

30700.06 – CBS – Muncie (OAPP) – Figure 5 – Sampling Locations.dwg Sheet (Layout1)

PSARA TECHNOLOGIES, INC.

LEGEND

CBS Corporation

Figure 5.
Sampling Locations
Progress Rail Facility
Muncie, Indiana

Drawn By:	Date:	Scale:
RLR	2/10/15	NTS

Figure 6.
EMERGENCY PHONE LIST

The following is a list of agencies, organizations, and personnel who may, depending on the nature of the situation, need to be contacted in the event of a site emergency. All primary response agencies will be notified prior to commencement of work as to the nature of activities at the site.

Primary Response Agencies

Delaware Co. Sheriff Department	**(765) 747-7885**
Muncie Police Department	**(765) 747-4838**
Muncie Fire Department	**(765) 747-4870**
Ball Memorial Hospital	**(765) 747-3111**
Indiana State Police	(812) 689-5000
National Poison Control Center	(800) 222-1222

Notifications

USEPA Region 5 Emergency Response Branch (24-hour hotline)	(312) 353-2318
National Response Center (24-hour hotline)	(800) 424-8802
TSCA Hotline	(202) 554-1404
Indiana Department of Environmental Management	(317) 232-8603
Indiana Department of Environmental Management (24-hour hotline)	(888) 233-7745
Randolph County Health Department	(765) 584-1155

Site Numbers

PSARA Field Office	TBD

Emergency Contacts

CBS Project Manager	Dorothy Alke	Office	(412) 642-2562
PSARA Project Manager	Mike Hessling	Office	(513) 791-4418
Progress Rail (Site Contact)	Tyson Long	Cellular	Not Responsive

Figure 7.

Directions to Ball Memorial Hospital (2401 W. University Avenue) from the Muncie Site

1. At the site access gate, turn right onto 100 West Road (Cowan Road) and go north.
2. Turn left (west) on W. Memorial Drive.
3. Turn right (north) on S. Batavia Drive.
4. Turn right (east) on W. Jackson Street.
5. Turn left (north) on S. Tulley Street.
6. Turn left (west) on W. University Avenue.

APPENDIX A

Health and Safety Requirements Matrix

Health and Safety Requirements Matrix
Delineation and Remediation of PCB-Impacted Soils, Muncie, Indiana

Activity (Tasks)*	Hazard Identification	Air and Personnel Monitoring Requirements	Personal Protective Equipment	Training Requirements	Medical Monitoring	Administrative & Engineering Controls	Decontamination & Disposal Procedures
1.0 General project mobilization and demobilization, minimum requirements for site entry	General industry safety standards		Level D	40-hour & 8-hour trained in accordance with 29 CFR 1910.120 Briefed on site-specific HASP Briefed on SSOP Manual for task-specific operations			
	Cold stress	Employee monitoring for signs of cold stress		Briefed on recognition of cold stress		Work/rest periods in warm, indoor environment	
	Heat stress	Employee monitoring for signs of heat stress		Briefed on recognition of heat stress		Work/rest periods appropriate for temperature	
2.0 Drilling	PCBs		Modified Level D	Hazard communication training in accordance with HASP about contaminant	Medical monitoring in accordance with 29 CFR 1910.120		Personnel decontamination line with boot wash and trash cans for disposable items

continued

Health and Safety Requirements Matrix (continued)
Delineation and Remediation of PCB-Impacted Soils, Muncie, Indiana

Activity (Tasks)*	Hazard Identification	Air and Personnel Monitoring Requirements	Personal Protective Equipment	Training Requirements	Medical Monitoring	Administrative & Engineering Controls	Decontamination & Disposal Procedures
3.0 Excavation	PCBs		Modified Level D	Hazard communication training in accordance with HASP about contaminant	Medical monitoring in accordance with 29 CFR 1910.120		Personnel decontamination line with boot wash and trash cans for disposable items
4.0 Soil and groundwater sampling	PCBs		Modified Level D	Hazard communication training in accordance with HASP about contaminant	Medical monitoring in accordance with 29 CFR 1910.120		Personnel decontamination line with boot wash and trash cans for disposable items
5.0 Handling of investigation- and remediation-derived wastes	PCBs		Modified Level D	Hazard communication training in accordance with HASP about contaminant	Medical monitoring in accordance with 29 CFR 1910.120		Personnel decontamination line with boot wash and trash cans for disposable items
6.0 Equipment decontamination activities (using high-pressure spray)	PCBs		Modified Level D with splash gear	Hazard communication training in accordance with HASP about contaminant	Medical monitoring in accordance with 29 CFR 1910.120		Personnel decontamination line with boot wash and trash cans for disposable items

*The requirements listed in Section 1.0 of this matrix apply to all other activities (i.e., Sections 2 and 3).

APPENDIX B

Material Safety Data Sheets

Monsanto

Material Safety Data

POLYCHLORINATED BIPHENYLS (PCBs)

Emergency Phone No.
(Call Collect)
314-694-1000

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: POLYCHLORINATED BIPHENYLS (PCBs)
Aroclor® Series 1018, 1221, 1232, 1242, 1248, 1254, 1260, 1262, 1268
Therminol® FR Series

MSDS Number: M00018515 Date: 12/95

Chemical Family:	Chlorinated Hydrocarbons
Chemical Name:	Polychlorinated biphenyls
Synonyms:	PCBs, Chlorodiphenyls, Chlorinated biphenyls

Trade Names/Common Names:

PYRANOL® and INERTEEN® are trade names for commonly used dielectric fluids that may have contained varying amounts of PCBs as well as other components including chlorinated benzenes.

ASKAREL is the generic name for a broad class of fire resistant synthetic chlorinated hydrocarbons and mixtures used as dielectric fluids that commonly contained about 30 - 70% PCBs. Some ASKAREL fluids contained 99% or greater PCBs and some contained no PCBs.

PYDRAUL® is the trade name for hydraulic fluids that, prior to 1972, may have contained varying amounts of PCBs and other components including phosphate esters.

The product names/trade names are representative of several commonly used Monsanto products (or products formulated with Monsanto products). Other trademarked PCB products were marketed by Monsanto and other manufacturers. PCBs were also manufactured and sold by several European and Japanese companies. Contact the manufacturer of the trademarked product, if not in this listing, to determine if the formulation contained PCBs.

In 1972, Monsanto restricted sales of PCBs to applications involving only closed electrical systems. (transformers and capacitors). In 1977, all manufacturing and sales were voluntarily terminated. In 1979, EPA restricted the manufacture, processing, use, and distribution of PCBs to specifically exempted and authorized activities.

MONSANTO COMPANY, 800 N. LINDBERGH BLVD., ST. LOUIS, MO 63167

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT
Call CHEMTREC - Day or Night - 1-800-424-9300 Toll free in the continental U.S., Hawaii, Puerto Rico, Canada, Alaska, or Virgin Islands. For calls originating elsewhere: 202-483-7616 (collect calls accepted)

For additional nonemergency information, call: 314-694-3344.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemically, commercial PCBs are defined as a series of technical mixtures, consisting of many isomers and compounds that vary from mobile, oily liquids to white crystalline solids and hard noncrystalline resins. Technical products vary in composition, in the degree of chlorination, and possibly according to batch.

The mixtures generally used contain an average of 3 atoms of chlorine per molecule (42% chlorine) to 5 atoms of chlorine per module (54% chlorine). They were used as components of dielectric fluids in transformers and capacitors. Prior to 1972, PCB applications included heat transfer media, hydraulic, and other industrial fluids, plasticizers, carbonless copy paper, paints, inks, and adhesives.

Component	CAS No.
chlorinated biphenyl	1336-36-3
Aroclor 1016	12674-11-2
Aroclor 1221	11104-28-2
Aroclor 1232	11141-16-5
Aroclor 1242	53469-21-9
Aroclor 1248	12672-29-6
Aroclor 1254	11097-69-1
Aroclor 1260	11096-82-5
Aroclor 1262	37324-23-5
Aroclor 1268	11100-14-4

There are also CAS Numbers for individual PCB congeners and for mixtures of Aroclor® products.

PCBs are identified as hazardous chemicals under criteria of the OSHA Hazard Communication Standard (29 CFR Part 1910.1200). PCBs have been listed in the International Agency for Research on Cancer (IARC) Monographs (1987)-Group 2A and in the National Toxicology Program (NTP) Annual Report on Carcinogens (Seventh).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance and Odor: PCB mixtures range in form and color from clear to amber liquids to white crystalline solids. They have a mild, distinctive odor and are not volatile at room temperature. Refer to Section 9 for details.

WARNING!
CAUSES EYE IRRITATION
MAY CAUSE SKIN IRRITATION

PROCESSING AT ELEVATED TEMPERATURES MAY RELEASE VAPORS OR FUMES WHICH MAY CAUSE RESPIRATORY TRACT IRRITATION

POTENTIAL HEALTH EFFECTS

Likely Routes of Exposure: Skin contact and inhalation of heated vapors

Eye Contact: Causes moderate irritation based on worker experience.

Skin Contact: Prolonged or repeated contact may result in redness, dry skin and defatting based on human experience. A potential exists for developing chloracne. PCBs can be absorbed through intact skin.

Inhalation: Due to the low volatility of PCBs, exposure to this material in ambient conditions is not expected to produce adverse health effects. However, at elevated processing temperatures, PCBs may produce a vapor that may cause respiratory tract irritation if inhaled based on human experience.

Ingestion: No more than slightly toxic based on acute animal toxicity studies. Coughing, choking and shortness of breath may occur if liquid material is accidentally drawn into the lungs during swallowing or vomiting.

Other: Numerous epidemiological studies of humans, both occupationally exposed and nonworker environmentally exposed populations, have not demonstrated any causal relationship between PCB exposure and chronic human illnesses such as cancer or neurological or cardiovascular effects. PCBs at high dosage can cause skin symptoms; however, these subside upon removal of the exposure source.

Refer to Section 11 for toxicological information.

4. FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. If easy to do, remove any contact lenses. Get medical attention. Remove material from skin and clothing.

IF ON SKIN, immediately flush the area with plenty of water. Wash skin gently with soap as soon as it is available. Get medical attention if irritation persists.

IF INHALED, remove person to fresh air. If breathing is difficult, get medical attention.

IF SWALLOWED, do NOT induce vomiting. Rinse mouth with water. Get medical attention. Contact a Poison Control Center. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

NOTE TO PHYSICIANS: Hot PCBs may cause thermal burn. If electrical equipment arcs between conductors, PCBs or other chlorinated hydrocarbon dielectric fluids may decompose to produce hydrochloric acid (HCl), a respiratory irritant. If large amounts are swallowed, gastric lavage may be considered.

5. FIRE FIGHTING MEASURES

Flash Point: 284 degrees F (140 degrees C) or higher depending on the chlorination level of the Aroclor product

Fire Point: 349 degrees F (176 degrees C) or higher depending on the chlorination level of the Aroclor product

NOTE: Refer to Section 9 for individual flash points and fire points.

Extinguishing Media: Extinguish fire using agent suitable for surrounding fire. Use dry chemical, foam, carbon dioxide or water spray. Water may be ineffective. Use water spray to keep fire-exposed containers or transformer cool.

PCBs are fire-resistant compounds. They may decompose to form CO, CO2, HCl, phenolics, aldehydes, and other toxic combustion products under severe conditions such as exposure to flame or hot surfaces.

Dielectric fluids having PCBs and chlorinated benzenes as components have been reported to produce polychlorinated dibenzo-p-dioxins (PCDDs) and furans (PCDFs) during fire situations involving electrical equipment. At temperatures in the range of 600-650 degrees C in the presence of excess oxygen, PCBs may form polychlorinated dibenzofurans (PCDFs). Laboratory studies under similar conditions have demonstrated that PCBs do not produce polychlorinated dibenzo-p-dioxins (PCDDs).

Federal regulations require all PCB transformers to be registered with fire response personnel.

If a PCB transformer is involved in a fire-related incident, the owner of the transformer may be required to report the incident. Consult and follow appropriate federal, state and local regulations.

Fire Fighting Equipment: Fire fighters and others exposed to products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

8. ACCIDENTAL RELEASE MEASURES

Cleanup and disposal of liquid PCBs and other PCB items are strictly regulated by the federal government. The regulations are found at 40 CFR Part 761. Consult these regulations as well as applicable state and local regulations prior to any cleanup or disposal of PCBs, PCB items, or PCB contaminated items.

If PCBs leak or are spilled, the following steps should be taken immediately:

All nonessential personnel should leave the leak or spill area.

The area should be adequately ventilated to prevent the accumulation of vapors.

The spill/leak should be contained. Loss to sewer systems, navigable waterways, and streams should be prevented. Spills/leaks should be removed promptly by means of absorptive material, such as sawdust, vermiculite, dry sand, clay, dirt or other similar materials, or trapped and removed by pumping or other suitable means (traps, drip-pans, trays, etc.).

Personnel entering the spill or leak area should be furnished with appropriate personal protective equipment and clothing as needed. Refer to Section 8 for personal protection equipment and clothing.

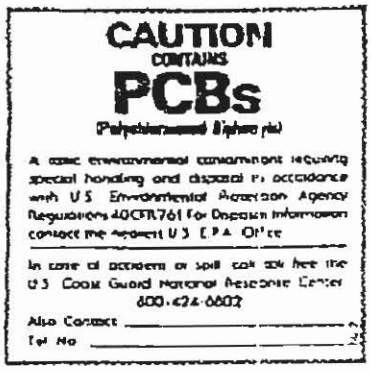
Personnel trained in emergency procedures and protected against attendant hazards should shut off sources of PCBs, clean up spills, control and repair leaks, and fight fires in PCB areas.

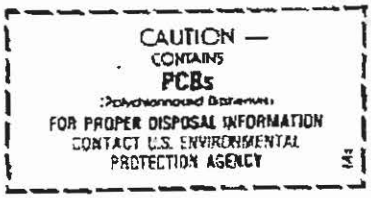
Refer to Section 13 for disposal information and Sections 14 and 15 for information regarding reportable quantity, and Section 7 for marking information.

7. HANDLING AND STORAGE

Care should be taken to prevent entry into the environment through spills, leakage, use vaporization, or disposal of liquid or containers. Avoid prolonged breathing of vapors or mists. Avoid contact with eyes or prolonged contact with skin. If skin contact occurs, remove by washing with soap and water. Following eye contact, flush with water. In case of spillage onto clothing, the clothing should be removed as soon as practical, skin washed, and clothing laundered. Comply with all federal, state, and local regulations.

Federal regulations under the Toxic Substances Control Act require PCBs, PCB items, storage areas, transformer vaults, and transport vehicles to be marked (check regulations, 40 CFR 761, for details).





Storage: The storage of PCB items or equipment (those containing 50 ppm or greater PCBs) and PCB waste is strictly regulated by 40 CFR Part 761. The storage time is limited, the storage area must meet physical requirements, and the area must be labeled.

Avoid contact with eyes.
Wash thoroughly after handling.
Avoid breathing processing fumes or vapors.
Process using adequate ventilation.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection: Wear chemical splash goggles and have eye baths available where there is significant potential for eye contact.

Skin Protection: Wear appropriate protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine the appropriate type glove for a given application. Wear chemical goggles, face shield, and chemical resistant clothing such as a rubber apron when splashing is likely. Wash immediately if skin is contacted. Remove contaminated clothing promptly and launder before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash thoroughly after handling.

ATTENTION! Repeated or prolonged skin contact may cause chloracne in some people.

Respiratory Protection: Avoid breathing vapor, mist, or dust. Use NIOSH/MSHA approved equipment when airborne exposure limits are exceeded. Full facepiece equipment is recommended when airborne exposure limits are exceeded and, if used, replaces the need for face shield and/or chemical splash goggles. Consult respirator manufacturer to determine the type of equipment for a given application. The respirator use limitations specified by NIOSH/MSHA or the manufacturer must be observed. High airborne concentrations may require use of self-contained breathing apparatus or supplied air respirator. Respiratory protection programs must be in compliance with 29 CFR Part 1910.134.

ATTENTION! Repeated or prolonged inhalation may cause chloracne in some people.

Ventilation: Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of vapor or mist, such as open process equipment.

Airborne Exposure Limits:

Product: Chlorodiphenyl (42% chlorine)

OSHA PEL: 1 mg/m^3 8-hour time-weighted average - Skin*
ACGIH TLV: 1 mg/m^3 8-hour time-weighted average - Skin*

Product: Chlorodiphenyl (54% chlorine)

OSHA PEL: 0.5 mg/m^3 8-hour time-weighted average - Skin*
ACGIH TLV: 0.5 mg/m^3 8-hour time-weighted average - Skin*

*For Skin notation see Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Government Industrial Hygienists, 1995-1996.

9. PHYSICAL AND CHEMICAL PROPERTIES

PROPERTIES OF SELECTED AROCLORS[1]							
PROPERTY	1016	1221	1232	1242	1248	1254	1260
Color (APHA)	40	100	100	100	100	100	150
Physical state	mobile oil	mobile oil	mobile oil	mobile oil	mobile oil	viscous liquid	sticky resin
Stability	inert	inert	inert	inert	inert	inert	inert
Density (lb/gal 25°C)	11.40	9.85	10.55	11.50	12.04	12.82	13.50
Specific gravity x/15.5°C	1.36-1.37 x-25°	1.18-1.19 x-25°	1.27-1.28 x-25°	1.30-1.39 x-25°	1.40-1.41 x-65°	1.49-1.50 x-65°	1.55-1.56 x-90°
Distillation range (°C)	323-356	275-320	290-325	325-366	340-375	365-390	385-420
Acidity mg KOH/g, maximum	.010	.014	.014	.015	.010	.010	.014
Fire point (°C)	none to boiling point	176	238	none to boiling point	none to boiling point	none to boiling point	none to boiling point
Flash point (°C)	170	141-150	152-154	176-180	193-196	none	none
Vapor pressure (mm Hg @ 100°F)	NA	NA	0.005	0.001	0.00037	0.00006	NA
Viscosity (Saybolt Univ. Sec. @ 100°F) (centistokes)	71-81 13-16	38-41 3.6-4.6	44-51 5.5-7.7	82-92 16-19	185-240 42-52	1800-2500 390-540	— —

[1]NA—*Not Available*

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

10. STABILITY AND REACTIVITY

Stability: PCBs are very stable, fire-resistant compounds.
Materials to Avoid: None
Hazardous Decomposition Products: PCBs may decompose to form CO, CO_2, HCl, phenolics, aldehydes, and other toxic combustion products under severe conditions such as exposure to flame or hot surface.
Hazardous Polymerization: Does not occur.

11. TOXICOLOGICAL INFORMATION

Data from laboratory studies conducted by Monsanto and from the available scientific literature are summarized below.
Single exposure (acute) studies indicate:
Oral - Slightly Toxic (Rat LD50 - 3.65 g/kg for 42% chlorinated; 11.9 g/kg for 54% chlorinated)

The liquid products and their vapors are moderately irritating to eye tissues. Animal experiments of varying duration and at different air concentrations show that for similar exposure conditions, the 54% chlorinated material produces more liver injury than the 42% chlorinated material.

There are literature reports that PCBs can impair reproductive functions in monkeys. The National Cancer Institute (NCI) performed a study in 1977 using Aroclor 1254 with both sexes of rats. NCI stated that the PCB, Aroclor 1254, was not carcinogenic under the conditions of their bioassay. There is sufficient evidence in the scientific literature to conclude that Aroclor 1260 can cause liver cancer when fed to rodents at high doses. Similar experiments with less chlorinated PCB products have produced negative or equivocal results.

The consistent finding in animal studies is that PCBs produce liver injury following prolonged and repeated exposure by any route, if the exposure is of sufficient degree and duration. Liver injury is produced first, and by exposures that are less than those reported to cause cancer in rodents. Therefore, exposure by all routes should be kept sufficiently low to prevent liver injury.

Numerous epidemiological studies of humans, both occupationally exposed and nonworker environmentally exposed population, have not demonstrated any causal relationship between PCB exposure and chronic human illnesses such as cancer or neurological or cardiovascular effects. PCBs at high dosage can cause skin symptoms; however, these subside upon removal of the exposure source.

PCBs have been listed in the International Agency for Research on Cancer (IARC) Monographs (1987)-Group 2A and in the National Toxicology Program (NTP) Seventh Annual Report on Carcinogens.

12. ECOLOGICAL INFORMATION

Care should be taken to prevent entry of PCBs into the environment through spills, leakage, use, vaporization or disposal of liquid or solids. PCBs can accumulate in the environment and can adversely affect some animals and aquatic life. In general, PCBs have low solubility in water, are strongly bound to soils and sediments, and are slowly degraded by natural processes in the environment.

13. DISPOSAL CONSIDERATIONS

The disposal of PCB items or equipment (those containing 50 ppm or greater PCBs) and PCB wastes is strictly regulated by 40 CFR Part 761. For example, all wastes and residues containing PCBs (wiping cloths, absorbent material, used disposable protective gloves and clothing, etc.) should be collected, placed in proper containers, marked and disposed of in the manner prescribed by EPA regulations (40 CFR Part 761) and applicable state and local regulations.

14. TRANSPORT INFORMATION

The data provided in this section are for information only. Please apply the appropriate regulations to properly classify a shipment for transportation.

DOT Classification:	IF WEIGHT OF PCBs TO BE SHIPPED IS OVER ONE POUND, *THE FOLLOWING* CLASSIFICATION AND LABEL APPLY.	
DOT Label:	LIQUID:	Environmentally Hazardous Substance, liquid, n.o.s. (Contains PCB), 9, UN 3082, III
	SOLID:	Environmentally Hazardous Substance, solid, n.o.s. (Contains PCB), 9, UN 3077, III
DOT Label:	Class: 9	
DOT Reportable Quantity:	One Pound	
IMO Classification:	Polychlorinated Biphenyls, IMO Class 9, UN 2315, II IMO Page 9034, EMS 6.1-02	
IATA/ICAO Classification:	Polychlorinated Biphenyls, 9, UN2315, II	

15. REGULATORY INFORMATION

For regulatory purposes, under the Toxic Substances Control Act, the term "PCBs" refers to a chemical substance limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contain such a substance (40 CFR Part 761).

TSCA Inventory: not listed.

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370): Immediate, Delayed.
SARA Section 313 Toxic Chemical(s): Listed-1993 (De Minimis concentration 0.1%.)

Reportable Quantity (RQ) under DOT (49 CFR) and CERCLA Regulations: 1 lb. (polychlorinated biphenyls) PCBs.

Release of more than 1 (one) pound of PCBs to the environment requires notification to the National Response Center (800-424-8802 or 202-426-2675).

Various state and local regulations may require immediate reporting of PCB spills and may also define spill cleanup levels. Consult your attorney or appropriate regulatory officials for information relating to spill reporting and spill cleanup.

16. OTHER INFORMATION

Reason for revision: Conversion to the 16 section format. Supersedes MSDS dated 10/88.

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APPENDIX C

Site Safety Plan Acknowledgment Form

Site Safety Plan Acknowledgment Form

I have been informed and understand and will abide by the procedures set forth in the Health and Safety Plan and Amendments for the Progress Rail Facility, Muncie, Indiana.

Printed Name	Signature	Representing	Date